TENDER DOCUMENT

M/S_____ **Receipt No._____**

_____ **Date: - _____**

FOR

SUPPLY OF

MACHINERY & EQUIPMENTS FOR ESTABLISHMENT OF Multi Disciplinary Research Lab

AT IGMC, SHIMLA

DUE ON 03.08.2015

LAST DATE

FOR RECEIPT OF BID

UPTO 1 PM ON 03.08.2015

BID OPENING ON

03.08.2015 AT 3:00 PM

PRINCIPAL

INDIRA GANDHI MEDICAL COLLEGE,

SHIMLA

TEL No. 0177- 2883214, 2807682

COST OF TENDER DOCUMENT

AT COUNTER RS. 1000/-

BY POST RS. 1050/-

(2)

INDIRA GANDHI MEDICAL COLLEGE, SHIMLA

No. HFW/ME (MCS)G(3)-(Purchase)-2015- 15299 Dated: 6-7-15

TENDER NOTICE

Properly sealed tenders are invited for the supply of **Machinery & Equipments** for different departments of Indira Gandhi Medical College, Shimla so as to reach in this office on or before **03-08-2015** upto 1 PM thereafter no tender shall be entertained. The offers will be opened on same day at 3 PM in the presence of the prospective tenderers who may wish to remain present.

Tender form containing specifications, terms and conditions can be purchased from the office of the undersigned on any working day between 10 AM to 5PM upto **01-08-2015** at the cost of Rs. 1000/- on counter and Rs. 1050/- by Registered post, which is non refundable (only M.O/ TMO will be entertained sufficiently in advance to avoid the risk of late dispatch of the tender forms. Delay in submission of tender form due to late receipt of MO/TMO will be the entire responsibility of the tenderers). The tenders sent by post or courier shall be entertained only if these are actually received by the specific date and time.

The tender document can also be downloaded from the website www.igmcshimla.org, however, such bidder shall be required to pay the cost of the tender document in the form of DD in favour of the Principal IGMC Shimla alongwith their bid.

The tender must be accompanied with an earnest money of **Rs. 50,000/- (Rupees Fifty Thousand)** only in the shape of FDR duly pledged in the name of PRINCIPAL, INDIRA GANDHI MEDICAL COLLEGE, SHIMLA. The tenders without earnest money or short or not in form specified above will be rejected straightway.

In case any date mentioned above happens to be a holiday, the next day will be considered as due date.

Principal
IGMC Shimla

No. As above Dated:-

Copy forwarded for information and necessary action to:-

1. The Director, Information & Public Relation Department, Himachal Pradesh, Shimla-2 alongwith six spare copies for wide publicity in the leading News papers in English and Hindi.
2. The Director Medical Education & Research, Himachal Pradesh, Shimla-9.
3. The Controller of Stores, Himachal Pradesh, Shimla-1.
4. All the Members of Departmental Purchase Committee.
5. Interested tenderers.
6. Notice Board.

Principal
IGMC Shimla

ANNEXURE- C

INDIRA GANDHI MEDICAL COLLEGE, SHIMLA, HIMACHAL PRADESH

S.NO. OF TENDER : _____
FILE NO. :
Name of the party in whose :
Favour the Tender form has
been issued _____

(SEAL OF THE OFFICER)

To

The Principal,
Indira Gandhi Medical College
Shimla, HP -171001

Dear Sir,

1. I am /We are hereby submit our tender for the_____

2. I/WE am/are enclosing herewith the FDR. No…… dated……. for Rs.50,000/- duly pledged in favour of the "Principal IGMC Shimla" towards EMD. (TENDERS NOT ACCOMPANIED WITH EMD/BID SECURITY ALONGWITH THE TECHNICAL BID SHALL BE SUMMARILY REJECTED).

3. I /We have gone through all terms and conditions of the tender documents before submitting the same.

4. I/We hereby agree to all the terms and conditions, stipulated by the IGMC, in this connection including demonstration, delivery, installation and warranty and penalty etc. Quotations for each group are being submitted under separate covers, and sheets and shall be considered on their face value.

5. I/We have noted that overwritten entries shall be deleted unless duly cut & re-written and initialed.

6. Tenders are duly signed (No thumb impression should be affixed).

7. I/We undertake to sign the contract/agreement, if required, within 15 (Fifteen days) from the date of issue of the letter of acceptance, failing which our/my security money deposited may be forfeited and our/my name may be removed from the list of suppliers at the IGMC Shimla-1.

NOTE: ALL TERMS AND CONDITIONS SUCH AS TAXES ETC, HAS BEEN INDICATED IN THE QUOTATIONS FAILING WHICH IT WILL BE PRESUMED THAT ALL THE RATES ARE INCLUSIVE OF ALL TAXES AND OTHER TERMS AND CONDITIONS ARE ALSO AS PER YOUR REQUIREMENTS.

Yours faithfully,

Signature of Tenderer(s)
full Address

WITNESS_____

WITNESS_____

WITNESS_____

1. Instructions to Bidders

1.1 Bids are invited, for and on behalf of Principal, IGMC Shimla from established, reputed and experienced manufacturers or their authorized dealers/representatives for purchase of machinery and equipment for purchase of machinery and equipment to different departments of IGMC, Shimla as per the enclosed Technical Specifications. **(Annexure-A).**

1.2 Bidders are requested to study the tender document and terms & conditions carefully. Submission of tender shall be deemed to have been done after careful study and examination of the tender document with full understanding of its implications.

1.3 The scope of work shall include Supply, Installation, Commissioning, & Satisfactory Demonstration. This will also include testing, packing, transportation, scheduling of transportation, transit insurance, delivery at sites, unloading, storage, job site storage, insurance, installation and any other services associated with the delivery of the equipment and materials providing warranty of services and operation and maintenance of other related equipment / items required for complete installation. The successful bidder will assume full responsibility of the complete system until final acceptance.

1.4 It will be imperative on each bidder to fully acquaint himself with all the local conditions and factors which would have any effect on the performance of the System. No request for the change of price, or time, schedule of delivery of stores shall be entertained after the purchase on account of any local condition or factor.

1.5 The bidders may have a survey including a site visit before furnishing the quotations. They have to apply for permission in this regard to the Principal IGMC Shimla. The Principal, IGMC Shimla will give such permission in writing, but the expenses, in connection with the visit and surveys etc., shall be borne by the bidders themselves.

1.6 The bidders will not form a part of the cartel and put in supporting quotations for some other company. This will debar the company for participating in other tenders floated or to be floated in by the purchaser. The authorities can compare the prices of other Bidders L2, L3 etc. also with the prices quoted in other tenders for same products and in case of discrepancy suitable action will be initiated.

1.7 No Gratification Clause: The bidders will give an undertaking that they will not try to gratify any person or use any other unfair means involved in the purchase of the quoted equipment. This will also debar the company for participating in other tenders floated or to be floated in by the purchaser and suitable action will be initiated against such defaulters.

1.8 Non Blacklisting Certificate: All the bidders will give an undertaking on non judicial Stamp paper duly attested that neither they nor their principals or the manufacturers have been blacklisted by any State / Central Government Departments/other organisations.

1.9 The bidders shall also be required to submit the copies of PAN and income tax returns for the last three year along with the copy of TIN/ copy of registration of their firms with appropriate authority.

1.10 All the correspondences shall be addressed to the Principal, IGMC Shimla.

1.11 The Bid Documents are not transferable and the cost of the documents is not refundable under any circumstances.

1.12 Information regarding installations in Government & Premier institutions in India and satisfactory service and maintenance may be forwarded with all the details for verification

2. Bid Security/Earnest Money

2.1 Bid Security/EMD amount should be enclosed along with the Technical Bid for an amount of Rs.50,000/- in the shape of FDR duly pledged in the name of "Principal, IGMC Shimla", failing which the tenders will be out rightly rejected. Bid Security/EMD, if already deposited against other tenders, shall not be adjusted against this tender.

2.2 The "Bid Security/Earnest Money ", in case of unsuccessful Bidders, shall be retained by the Purchaser, up-to a maximum period of One year from the date of opening of the Bids or till the finalization of the tender, whichever is later. The Bid security shall be refunded to the unsuccessful tenderers on their written request. No interest will be payable by the Purchaser on the Bid Security/EMD.

2.3 The Bid Security/Earnest Money shall be forfeited ;

a) If a Bidder withdraws his bid during the period of bid validity specified by the Bidder in the Bid; or

b) In the case of the finally selected Bidder, if the Bidder fails;

i) to sign the Contract in accordance with Clause 13; or

ii) to furnish Performance Guarantee in accordance with Clause 5.8 or

iii) if, at any stage, any of the information/declaration is found false.

2.4 Bid security/Earnest Money in respect of the finally selected Bidder(s) will be discharged upon the Bidder(s) executing the Contract, and furnishing the Performance Guarantee, pursuant to Clause-5.8.

3. Bidder's Qualification

The "Bidder" as used in the tender document shall mean one who has signed the Bid Form. The Bidder may be either the manufacturer of the equipment/machinery/material for which prices are quoted on the Price Schedule or his duly authorized representative, in which case, he shall submit a certificate of authority as per **Annexure- B.** All necessary certificates and documents shall be furnished by the manufacturer/ representative of the firm. Manufactures/companies should authorize only one

distributor for the State/for this particular tender and such specific authorization to this effect should be accompanied with tender document.

Only one bid from a manufacturer firm shall be accepted and in case the manufacturer firm itself apply in the tender process, the bid of the authorized representative shall not be considered.

4. Procurement and Submission of Tender Document

4.1 The non-transferable Tender Document will be sold at counter on payment of tender fee of Rs.1,000/- (Rupees One Thousand only non refundable) through cash or MO/TMO or demand draft or by post Rs.1050/- by MO/TMO or Demand Draft payable at Shimla drawn in favour of the "Principal IGMC Shimla".

IMPORTANT: IN CASE THE TENDER DOCUMENTS ARE DOWNLOADED FROM THE WEBSITE:-THE BIDDERS MAY DOWNLOAD THE TENDER DOCUMENTS DIRECTLY FROM THE WEBSITE AVAILABLE AT WWW.IGMCSHIMLA.ORG IN SUCH CASE, THE BIDDERS ARE REQUIRED TO SUBMIT THE TENDER COST FEE OF RS.1,000/-(NON-REFUNDABLE) BY WAY OF SEPARATE DEMAND DRAFT MENTIONEING TENDER FEE ON BACK OF BANK DRAFT DRAWN IN FAVOUR OF PRINCIPAL, INDIRA GANDHI MEDICAL COLLEGE, SHIMLA AND THE SAME SHOULD ESSENTIALLY BE ENCLOSED ALONGWITH THE TECHNICAL BID. THE BIDDERS SHOULD SPECIFICALLY SUPERSCRIBE, "DOWNLOADED FROM THE WEBSITE" ON THE TOP LEFT CORNER OF THE OUTER ENVELOPE CONTAINING TECHNICAL BID& PRICE BID SEPARATELY. IN NO CASE, THE TENDER COST FEE SHOULD BE MIXED WITH EMD AMOUNT. THE TENDERS NOT FOLLOWING THE ABOVE PROCEDURE WILL BE SUMMARILY REJECTED.

4.2 The non-transferable tender document can be obtained from the Office of Principal IGMC Shimla on or before 01.08.2015 on any working day 10.00 AM to 05.00 PM.

4.3 The sealed bids will be accepted upto 03.08.2015 till 1.00 p.m. in the office of the Principal IGMC Shimla.

4.4 The Technical Bids will be opened on 03.08.2015 at 03.00 p.m. in the office of the Principal IGMC Shimla. The bidders or their authorized representatives may present, if they so desire.

4.5 After evaluation of the Technical Bids and the technical presentation, the short listed bidders will be intimated accordingly.

4.6 The Financial bids of the short listed bidders will be opened in the Office of the Principal IGMC Shimla in the presence of prospective bidders/their authorized representatives, if any. (The date of opening of financial bids will be communicated to the technically successful bidders separately).

Note :- The forwarding letter as at **Annexure C** and other relevant documents as per check list duly signed should invariably be returned alongwith the quotation furnished, failing which the tender shall be rejected.

5. Bid Requirements

5.1 The College invites two part Bids from eligible suppliers/bidders. The two part bid shall consist of Part-I Technical Bid and Part-II Financial Bid. Technical and Financial Bids for each Machinery/Equipment at Annexure-A should be submitted in two separate sealed envelopes super scribed "Technical Bid" and "Financial Bid" respectively. The technical bid would be opened first. The Financial bid would be opened only in the case of those bidders who qualify and meet requisite parameters for technical evaluation. Further the

a)Technical Bid shall comprise the following and to be submitted alongwith following documents-

i) Manufacturers' Authorization Form (Annexure -B)

ii) Forwarding letter (Annexure-C)

iii) Bidders particulars (Annexure-E)

iv) Bid Form (Annexure -F)

v) Earnest Money Deposit

vi) Proforma of Guarantee for supply of spares during the post warranty period (Annexure -G)

vii) Bidder's profile (Annexure-H)

viii) Any other certificates/undertaking as per check list

b) Financial Bid in one cover. **(Annexure-D and Annexure-D-1).** Separate Financial Bid shall be submitted in respect of each equipment.

5.2 Bidders are required to submit all relevant documents as per check list, brochures, authority letters etc. with the technical offer of the concerned equipment and separate sealed envelope for each equipment should be submitted.

PLEASE NOTE NO PRICE/ COST SHOULD BE INDICATED IN THE TECHNICAL BID. TENDERS SUBMITTED WITHOUT FOLLOWING THE TWO BID SYSTEM PROCEDURE WILL BE SUMMARILY REJECTED.

5.3 Both the Technical Bid cover and Financial Bid cover prepared as above are to be kept in a single sealed cover super-scribed with Tender Number.

5.4 The cover thus prepared should also indicate clearly the name and address of the Bidder.

5.5 Each copy of the tender should be a complete document and should be bound as a volume. Different copies must be bound separately.

5.6 The sealed cover as mentioned at Clause 5.3 above shall be deposited with the Principal IGMC Shimla.

5.7 The Bidder must quote for the equipment with all items and quantities as listed in Annexure-A. **The bidder is required to quote only one model of the equipment**. The bid is liable to be rejected in case more than one model is offered.

5.8 The finally selected Bidder(s) will be required to furnish Security amount for Contract Performance equal to 10% of the Contract Price, on award of Contract as per the prescribed Performa, in the shape of Bank Guarantee from any scheduled Indian Bank or FDR duly pledged in favour of the Principal, IGMC, Shimla which shall be valid till warranty period. Failure to furnish security for the performance of contract, in time, would also entail forfeiture of EMD.

5.9 Bids not accompanied by EMD and Bids from representatives without letter of Authority from the manufacturers will be summarily rejected.

5.10 Telex/Fax bids, bids received through e-mail and incomplete bids will be summarily rejected.

5.11 Bidders should enclose, alongwith the Technical Bid of their offers, the full details including proposed configuration of offers with full documentation, descriptive literature/leaflets supplementing the description and point out any special feature of their system. All documentation is required to be in English.

5.12 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

5.13 All pages of the Bid being submitted must be signed and sequentially numbered by the Bidder and a certificate may be provided on the covering letter indicating the number of pages submitted along with the bid.

5.14 All information in the offer must be in English. Information in any other language must be accompanied by its authenticated translation in English. Failure to comply with this may render the offer liable to be rejected. In the event of any discrepancy between the offer in a language other than English and its English translation, the English translation will prevail.

5.15 The bidder must give an undertaking that the offered equipment's have not been supplied any where at a less rate than offered rate in this tender.

5.16 The bidder must submit the list of installation of similar nature of equipment's and also submit the copy of latest supply order alongwith satisfactory performance report.

6. Period of Validity of Bids

Bids shall remain valid for One year from the date of bid opening (price bid) prescribed by the Purchaser unless otherwise prescribed in other terms and conditions of this tender document. The Purchaser may reject a bid valid for a shorter period.

7. Purchaser's Right to accept any Bid and to reject any or all bids

The Purchaser reserves the right to accept any bid and to annul the tender process and reject all bids at any time, without assigning any reason, prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

8. Opening of Bids by Purchaser

8.1 The bids will be opened in the presence of Bidders/representatives who choose to attend on the scheduled date and time as mentioned. The Bidders/ representatives who are present shall sign a register evidencing their attendance. The Bidder's representatives shall furnish letter of authority from their principal to attend the bid opening. Financial bids of only those Bidders, whose bids are found technically suitable/qualified (after the presentation, demonstration etc., if any) will be opened. The decision of the sub-committee on technical suitability shall be final and shall not be open for discussion.

The bidders who do not qualify the technical evaluation shall be informed separately and their EMD and unopened financial bid shall be returned after award of the contract.

9. Scrutiny of Bids

9.1 The College will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required EMD has been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

The College may waive any minor infirmity, nonconformity or irregularity in a bid that does not constitute a material deviation and that does not prejudice or affect the relative ranking of any Bidder as a result of the technical and financial evaluation.

9.2 Prior to the detailed evaluation, the College will determine whether each Bid is acceptable qualitatively, is generally complete and is substantially responsive to the Bid Documents. For the purposes of this determination, a substantially responsive Bid is one that conforms to all the terms, conditions and specifications of the Bid Documents without material deviations, objections, conditionalties or reservations. A material deviation, objection, conditionality or reservation is one (i) that affects in any substantial way the scope, quality of performance of the Contract; (ii) that limits in any substantial way and /or is inconsistent with the Bid Documents or the college's rights or the successful Bidder's obligations under the Contract; or (iii) whose rectification would unfairly affect the competitive position of other Bidder's who are presenting substantially responsive Bids.

9.3 Arithmetical errors, if any, will be rectified on the following basis: If there is a discrepancy between the unit price and the total unit price as declared in the Price Schedule the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the supplier does not accept the correction of the errors, its bid will be rejected.

10. <u>Price Bid</u>

The prices may be quoted in **INR** only. All prices mentioned should be FOR destination at IGMC Shimla. Prices shall be quoted separately for each equipment and in a separate envelope. The bidders are required to quote the following prices:

a) Cost of core equipment including accessories as detailed in the specifications with 3 years warranty;

b) Cost of CMC per annum for post warranty period for 5 years. CMC shall also cover accessories supplied with the main equipment.

c) Cost of Calibrator to be replaced from time to time upto eight years, wherever applicable.

d) Cost of Control to be used for conducing the tests, wherever applicable.

e) Cost of Consumables, wherever applicable.

The price comparison shall be made on the basis of cost of main machinery/equipment/material alongwith its accessories, post warranty CMC, turn key job, cost of Calibrator, Control and consumables, wherever applicable.

It shall be noted that the number of test as depicted in Annexure-A in respect of certain items have been worked out on approximation and shall not be treated as final and may vary depending upon the future circumstances. However, it shall be binding on the selected bidders to supply the reagents/kits/consumables as per actual requirement from time to time on the quoted/negotiated prices for subsequent eight years after installation of equipment's meaning thereby that rates shall be freezed and shall be applicable for subsequent eight years for which the supplier shall have to submit an undertaking to this effect. Hence bidder shall quote the rates after careful consideration of above facts.

10.1 The bidder shall indicate the prices of **item 1 of Pathology Department** on prescribed PRICE BID PROFORMA at **Annexure-D** and in respect of other items of all other Departments in **Annexure-D-1** of the tender document. The Proforma should be duly signed & sealed by their authorized signatory/ies. Financial Bids not given in Proforma will be rejected out rightly.

10.2 The prices of machinery/equipment quoted by the Bidder and accepted by IGMC Shimla shall hold good till the completion of the works or satisfactory installation of Machinery/equipment and no additional claims will be admissible on account of any price variation or fluctuation in market rates.

10.3 Payments made consequent to any notified change in sales tax and other statutory levies (both increase and decrease) shall be to the Purchaser's account. For such claims of variation, the Bidder shall produce the Government notification as documentary evidence. Price variation due to any other cause shall be on Bidder's account.

10.4 The finally selected Bidder will have to apply to the proper Government Authority for grant of requisite License for such items as required and the purchaser will only tender such assistance, as considered necessary.

10.5 The firm has to provide the break-up of expenditure of different quoted items as well as total expenditure clearly for the whole items.

10.6 Excise/Custom Duty, VAT, Entry Tax and any other levy/surcharge in any shape or by whatever nomenclature may be included in the quoted amount unless it is specially mentioned separately.

10.7 The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected.

11. Purchaser's Right to Vary Quantities at the time of Award

The Purchaser reserves the right to vary the quantities and/or services.

12. Negotiation/Award of Contract

Prior to the expiry of the period of bid validity, the Purchaser will notify the finally selected Bidder(s) in writing by registered letter or by cable or telex or fax, to be confirmed in writing by registered

letter or by Hand in person, that its bid has been accepted. If need for extension of the bid validity period arises, it should be extended by mutual agreement. Before the award of contract, the College may hold negotiations with the bidder, whose bid has been determined to be substantially responsive to the bid documents and whose offers are lowest one. The aim is to reach agreement on all points and sign a contract.

13. Signing of Contract

13.1 At the same time as the Purchaser notifies the finally selected Bidder(s) that its bid has been accepted, the finally selected Bidder(s) shall collect the supply order, agreement/ Contract proforma from the office of the Principal IGMC Shimla.

13.2 Without prejudice to any legal remedy, failure of the finally selected Bidder(s) to comply with the requirement of Clause 2.3 (a) or Clause 2.3 (b)shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the Purchaser may make the award to the next lowest evaluated Bidder or call for fresh bids.

14. Payment:

Payment of machinery/equipment will be released in two installments as under:-

- 90% after the satisfactory installation & functioning of the Machinery/Equipment/material in the Lab/department and receiving of certificate to that effect from the concerned Lab/department.

- 10% after 3 month's satisfactory working of the machinery/equipment and receiving of certificate to that effect from the concerned Lab/department.

Payment of Turnkey job will be released in two instalment as under :-

-50% on completion of at least half of the jobs under turnkey project

-50% after satisfactory completion certificate from the PWD(Civil & Electrical wings) and HOD of the concerned Department.

15. Other Terms and Conditions of Tendering Firms

15.1 Printed terms and conditions to the Bidder will not be considered as forming part of their Bids. In case terms and conditions of the contract applicable to this invitation of tender are not acceptable to any Bidder, he should clearly specify deviation in his Bid.

16. Inspection and Tests

The Purchaser shall have the right to inspect and/or test the machinery/equipment for its conformity with the given Specifications.

16.1 In case any inspected or tested equipments fail to conform to the specifications, the Purchaser may reject them and the supplier shall either replace the rejected machinery/equipment's or make all alterations necessary to meet specification requirements free of cost to the Purchaser.

16.2 The supplier shall provide installation and standard tests for the individual equipment before the delivery of the system at site.

16.3 The supplier shall test each individual equipment and the complete system after installation at site and prepare a test report. This shall be compared with the factory test report to ensure that there is no deterioration in the equipment parameters during storage, transportation and installation.

16.4 Leaflets and literature should invariably be attached for ready references alongwith complete documentation of all the measurements conducted during installation period which shall be submitted by the supplier for future reference.

16.5 The technical problems faced during installation, testing and commissioning period and their solutions shall be submitted by the supplier at the time of handing over the completed works.

16.6 For the purpose of taking over the equipment/system supplied pursuant to this contract, an acceptance test shall be carried out at the Purchaser/Consignees destination site. The equipment which meets the acceptance test shall only be accepted by the Purchaser.

16.7 (a) Acceptance Test at site shall be conducted of individual equipment and complete system to ensure that individual equipment and complete system meets the technical specifications and other operational and technical requirements of tender.

(b) The Purchaser shall have the right to reject any individual equipment or complete system, if in its opinion the same does not meet technical specifications, operational or technical requirements. The decision of the purchaser in this regard shall be final.

(c) The delivery, installation or commissioning shall not be deemed to have been completed unless all the equipments and systems are accepted by the purchaser.

18. Warranty/CMC (AFTER SALES SERVICES)

18.1 The equipment shall be quoted with 3 years warranty. The warranty shall also cover the accessories supplied with the main equipment. However, it shall be noted that the warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. CMC shall be applicable to the post warranty period for 5 years and shall be quoted on yearly basis.

18.2 Incremental Cost (if any) for up-gradation, if required, should form part of the contract for the Warranty and Post Warranty period.

18.3 The Supplier (manufacturer) shall set-up a maintenance base to provide maintenance service, of the entire system being offered, at short notice during the warranty and post warranty period. The technical maintenance personnel of the supplier, responsible for supervision and maintenance, shall be available to reach the site(s) within 48 hours' notice.

18.4 If the performance of any individual equipment or system is not satisfactory, the same shall be replaced by the supplier free of cost.

18.5 If it is found that to meet the performance criteria, any extra equipment is required the same will be provided free of cost by the supplier.

18.6 Any lacuna or lacunae noticed in the functioning of the installation as a result of any design feature shall be rectified by the supplier free of cost.

18.7 The Supplier shall fully associate the engineers and technicians of the Institute during installation, testing, commissioning, operation and maintenance period.

18.8 The bidder shall attach an undertaking on affidavit from the original manufacturer that the AMC/CMC INDICATING THE CMC CHARGES after warranty period shall be provided by the manufacturer OR HIS SOLE All India distributor directly on the rates and terms finalized with the bidder. The manufacturer shall be liable for the aforesaid service in case the dealership is changed/back out.

19. <u>Spare Parts</u>

19.1 The Bidder will undertake that supplies of necessary maintenance equipment and spare parts will be made available for all items/equipments and for the complete system for at least twelve years on a continuing basis. An undertaking in this regard should be made available from the original manufacturer.

However, this does not relieve the supplier of any warranty obligations under the Contract.

19.2 The Bidder shall include in his tender, the details of essential spares, and their quantity and unit prices as per schedule of requirements.

19.3 In addition to the essential spares, Bidder shall indicate additional recommended quantities of spares for efficient maintenance of the equipment and the systems for a period of 9 years, after the completion of warranty period, to ensure that the quality and reliability objective is achieved. The details on which unit price and the total cost or recommended spares is based shall be included in the tender as an option. However, the cost of such recommended spares shall not be considered for tender evaluation.

20. Previous Installations

20.1 The names and address of the institutions/hospitals where the supplier has already installed/supplied the equipment indicating the dates of installations may be given (in India and abroad). He should also attach performance certificates to indicate his prompt after sales service.

20.2 On site functional assessment of the similar installation and equipment of the short listed Bidders will be undertaken, if necessary, by the Committee duly constituted by the IGMC.

21. Delivery, Installation and Commissioning

21.1 Delivery of the goods at the Institute premises shall be completed by the Supplier within 4 weeks from the date of Supply Order.

21.2 The installation, testing and commissioning of the proposed system shall be completed within 5 weeks from the date of Supply Order, failing which necessary action as deemed fit under rules, will be taken against the defaulter.

22. Site Preparation

22.1 The site for installation of the equipment shall be provided by the purchaser as per the required specification and environmental conditions before the installation of System/equipment/machinery.

22.2 Any civil/electrical work or other related works if specified/detailed in the technical specification shall be prepared by the supplier keeping in view the actual condition of site.

23. Incidental Services

23.1 The supplier is required to provide at free of cost to Purchaser all Hardware and Software up gradation from time to time, during warranty and CMC period.

23.2 Further, any bugs/shortcomings detected by the purchaser/user as well as the supplier himself shall be rectified at free of cost to purchaser even beyond warranty period

24. Property Rights

The Supplier shall indemnify the Purchaser against all third party claims of infringement of patent, copyright, trademark, license of industrial design rights, software piracy arising from use of the store/goods or any part thereof in the Purchaser's country.

25. Arbitration

Disputes, if any, shall be subjected to the sole arbitration of Principal Secretary/Secretary(Health) to the Government of Himachal Pradesh, whose decision shall be final and binding on the parties.

26. Jurisdiction

The courts at Shimla will have the jurisdiction for trial of any matter, dispute or reference between the parties arising out of the contract. It is specifically provided that no court outside and other than Courts at Shimla shall have jurisdiction in the matter.

27. Force Majeure

Any failure of omission or commission to carry out the provisions of the contract by the supplier shall not give rise to any claim by either of the party to contract, if such failure of omission or commission arises from an act of God, which shall include all acts of natural calamities such as fire, flood, earthquake, hurricane or any pestilence or from civil strikes, compliance with any stature and/or regulation of the Government, lockouts and strikes, riots, embargo or from any political or other reasons beyond the supplier's own control including war (Whether declared or not) civil war or state or insurrection, provided that notice or the occurrence of any event by either party to the other shall be given within two weeks from the date of occurrence of such an event which could be attributed to Force Majuere conditions.

28. Termination for default

The purchaser may without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, terminate the contract in whole or in part.

i) If the supplier fails to deliver or install system within the time period(s) specified in the contract, OR

ii) If the supplier fails to perform any other obligation(s) under the contract.

29. Termination for Insolvency

The purchaser may at any time terminate the contract by giving written notice to the supplier, without compensation to the suppliers, if the supplier becomes bankrupts or otherwise insolvent (which shall be a breach of the contract on the part of the supplier), provided such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

30. Termination for Convenience

The purchaser may by written notice sent to the supplier terminate the contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience.

31. Up time guarantee:

The firm should provide uptime guarantee of 95% or as detailed in the technical specifications.

32. Downtime penalty Clause

32.1 During the comprehensive warranty period, the guarantee uptime as prescribed in Tender document/technical specification shall have to be ensured otherwise the penalty as specified shall be enforced. No discount will be given on account of public holidays/Sundays. The vendor must undertake to supply all spares for optimal upkeep of the equipment for at least TWELVE YEARS after handing over the unit to the Institute.

If accessories/other attachment of the system are procured from the third party, in such case the responsibility to keep the items/equipment's in working condition shall be the sole responsibility of the vendor and the bidder itself will have to sign the CMC with the Institute if required.

32.2 The principals or their agents are required to submit a certificate that they have satisfactory service arrangements and fully trained staff available to support the uptime guarantee.

33. PRICE FALL CLAUSE

The offer of rates by the tenderer will be subject to the price fall clause i.e. if any item is offered at a lower rate by the tenderer in any other State/Place in India to any other person/Org./Institution, he shall forthwith notify such reduction or sale to the Principal IGMC Shimla and the price payable for the Stores supplied to IGMC after the date of coming into force the such reduction or sale, shall stand correspondingly reduced even to IGMC.

34. The supplier shall furnish the following certificate alongwith each bill for payment for supplies made against in Rate Contract Tender.

"I/We certify that the Stores of description identical to the Stores supplied to the Government under the contract against Tender herein have not been offered/sold by me/us to any other person/organization/Institution upto date of bill/the date of completion of supplies against all supply orders placed during the currency of the tender/rate contract at the price lower than that of prices offered to the institute UNDER THIS CONTRACT/AGAINST TENDER".

The bidders must attach copies of their existing rate contracts, if any, with DGS&D or any other State Government/Institution.

NOTE :- BIDDER must go through these terms and conditions very carefully and put his signature alongwith stamp in token of acceptance of these terms and conditions. It shall also be noted that any further change in the tender documents shall be intimated/published only through website of this institute.

Principal
I.G.M.C., Shimla.

CHECK List duly filled in to be attached with the Technical Bid

S.N.	Particulars	
1.	Undertaking for No gratification as per clause 1.7	Yes/No
2.	Non-blacklisting certificate as per Clause 1.8	Yes/No
3.	Undertaking on affidavit from the original manufacture as per Clause 18.8	Yes/No
4.	Undertaking for the supply of spare part as per clause 19.1	Yes/No
5.	Whether a list of institution/organizations where your firm has supplied this item recently, is attached alongwith satisfactory performance certificate from those institution/ organizations. As per clause 20	Yes/No
6.	Certificate of having satisfactory service arrangement and fully trained staff as per clause 32.2	
7.	In case you are manufacturer, have you enclosed the certificate.	Yes/No
8.	Whether the prices has been quoted on the prescribed proforma.	Yes/No
9.	Whether all the undertakings as required in the tender document are enclosed	Yes/No
8.	Whether EMD as asked has been attached.	Yes/No
10.	Whether Tender Document duly signed by the authorized signatory attached.	Yes/No
11.	Whether the technical specification of the material are attached.	Yes/No
12.	PAN and copies of Income Tax Returns for the last three years.	Yes/No
13.	Copies of TIN issued/certificate of registration.	Yes/No
14.	Undertaking for supply of spare part during the subsequent twelve years(form G)	Yes/No
15.	Any other certificate/undertaking as prescribed in the tender	Yes/No

Authorized Signatory:
Name of the firm/bidder:

To be enclosed with Technical Bid

ANNEXURE-B

PROFORMA FOR AUTHORITY FROM MANUFACTURERS

No..... Dated.....

To,

Dear Sir,

Sub: Tender No.....

We..... an established and reputed manufacturers of ..... having factories at.....and office at M/s.....

(Name and Address of the Authorized representative) hereby authorise to represent us, to tender, negotiate and conclude the contract on our behalf with you against Tender no.....

No company/firm or individual other than M/s..... is authorized to represent us in regard to this business against this specific tender.

Yours faithfully,

Signature and seal

Name.....

For & on behalf of M/s

.....

(Name of Manufacturers)

Note: This letter of authority should be on the letter head of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturers.

To be enclosed with Technical Bid

ANNEXURE-H

BIDDER PROFILE

(A) General Information

(i) Location of Corporate Headquarters
(ii) Date and Country of Incorporation
(iii) Manufacturing facility(ies)
- Location
- Size
- Capacity

(iv) No. of service Facilities in India
- Location
- strength
- Area covered

(v) Average yearly turnover for last three years
(Attach copy of proof)
(vi) Geographical Distribution of the supplier
- No. of offices
- Locations
- Staff Strength

(vii) Total No. of installations of the system offered
(viii) No. of employees

Total No.	Manufacturing
R&D	Hardware Maintenance
Software	Any Other(Pl. Specify)

(B). Reference of Major installation with similar products
(Attach documents in support, if available)
Customer Name, Address Product Description,
Telephone/Fax No.

Signature
Name
Designation
Company
Company Seal

Date

To be enclose with Technical Bid

ANNEXURE-F

BID FORM Dated:

To,

Sir,

Having examined the Bidding Documents of Tender No._____ undersigned offer to supply, install, commission, operate maintain_____ and we undertake, if our bid is accepted, to complete delivery of all the items specified in the contract within_____weeks calculated from the date of receipt of your Notification of Award and to complete the installation, testing commissioning..... We also undertake to supply the CMC and consumables on the rates offered/negotiated (in case our bid is accepted) for the entire period of _____ years from the date of satisfactory installation.

Signature and Seal

.....

(In the capacity of)

Only Authorized to sign bid for and on behalf of.....

To be enclosed with Technical Bid

ANNEXURE-G

PROFORMA OF GUARANTEE FOR SUPPLY OF SPARES DURING POST WARRANTY PERIOD

To

Dear Sir,

In consideration of the (hereinafter referred to as "Purchaser" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assignees) having awarded to M/s…….. with its Registered/Head office at …….. (hereinafter referred to as the "Supplier" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assignees), a contract by issue of the Purchaser's letter of Award no…….. dated entering into a formal contract to that effect with the Purchaser on ..... vide agreement dated…….. (hereinafter referred to as the contract).

We the supplier hereby give a guarantee for the supply of all necessary spares demanded for the routine and emergency maintenance of being supplied by us to for a period of not less than _____ years after the warranty period of 3 years and life time spares thereafter in case asked for by the purchaser.

We further clarify that for the first _____ years i.e. warranty period of _____ years, we are covered by the warranty clause as mentioned. For the remaining period of _____ Years and thereafter for the life time, a detailed list of spares will be supplied to the purchaser for the purpose of enabling him to decide spares needed for routine and emergency maintenance.

Dated..... day of.....20.....

Witness :

(Name of manufacturers)

Signature and Seal

(Signature)

Name :

For & on behalf of M/s

PRICE BID PROFORMA

ANNEXURE-D

S. N.	Name of the equipment					Price quoted
1.	Cost of Core Equipment. (Manufacturer/model/ make etc. be specified) including all accessories as required in the technical specification with 3 years warranty					
2.	Taxes/Duties :-					
	i) Custom Duties					
	ii) CST/VAT					
	iii) Service Tax					
	iv) Entry Tax					
	v) Others(Pl. specify)					
3.	CMC (after 3 years warranty) 1st year 2nd year 3rd year 4th year 5th year Taxes on CMC(if any)					
4.	Cost of Turn Key Job					
5.	Cost of consumables	Pack size	Components of each Pack	Cost per complete kit/pack	Cost for 8 years	
(i)	Cost of consumables for conducting required No. of tests(CBC+Differential+ Retic+NRBC) as per specification					
(ii)	Cost of control (Low, Normal and High) for all the parameters.					
6.	Frequency of replacement of calibrator during the subsequent eight years after installation and cost thereof. (Cost of one unit should be multiplied by the No. of times of its replacement)					
7.	Net Price :					

It is certified that the cost of equipment shown above, has included all taxes/duties etc. and nothing above shall be charged over and above this cost.

Authorized Signatory:
Name of the firm/bidder:

PRICE BID PROFORMA

ANNEXURE-D-1

Sr. No.	Name of the equipment	Price quoted
1.	Cost of Core Equipment. (Manufacturer/model/ make etc be specified) including all accessories as required in the technical specification with 3 years warranty	
	Cost of Optional items, if any, not to be taken into account for determining L-1.	
2.	Taxes/Duties :-	
	i) Custom Duties	
	ii) CST/VAT	
	iii) Service Tax	
	iv) Entry Tax	
	v) Others(Pl. specify)	
3.	CMC (after 3 years warranty) 1st year 2nd year 3rd year 4th year 5th year Taxes on CMC(if any)	
4.	Turn Key Job, wherever applicable.	
5.	Buy Back offer, wherever applicable.	
6.	Net Price	

It is certified that the cost of equipment shown above, has included all taxes/duties etc. and nothing above shall be charged over and above this cost.

Authorized Signatory:

Name of the firm/bidder:

To be enclosed with Technical Bid

ANNEXURE-E

BIDDER PARTICULARS

Bidder Serial Number Allotted on Tender Document: _____

1. Name of the Bidder :

2. Address of the Bidder :

3. Name of the Manufacturer (s) :

4. Address(es) of the Manufacturer :

5. Name and address of the person :

To whom all references shall be

Made regarding this tender inquiry.

Telephone :

Telex :

Fax :

e-mail address :

Witness :

Signature	Signature
Name	Name
Address	Designation
	Company
Date	Date

Company Seal

ANNEXURE-A

(1) Pathology Department

Item No. 1 : Specifications for Fully automated 5 Part Differential Haematology Analyser:

1. Should provide complete blood cell counting including 5-part WBC differential with capability of doing Retics and NRBC enumeration. Must report following parameters : WBC, RBC, HGB, HCT, MCV, MCH, MCHC, RDW SD and CV, Platelets, MPV, PCT, PDW, Reticulocyte # & %, Mean Reticulocyte Volume , Mean Sphered Cell Volume, Immature Reticulocyte Fraction , High Light Scatter Reticulocyte % ,High Light Scatter Reticulocyte # , Nucleated Red Blood Cell Count % , Nucleated Red Blood Cell Count # , % and # of Lymphocyte, Monocyte, Neutrophil , Eosinophil, Basophil.
2. Must be able to attach with fully automated slide-maker & slide stainer which should work as integral part of main cell counter and the process of making slides should be totally automatic based on logic controlled mechanism set up in the hematology analyzer.
3. Must automatically enumerate Nucleated Red Blood Cells in the CBC/Differential mode
4. Should be based on the principle of counting and sizing.
5. Must analyse leucocytes in their native state through laser based scatter analysis.
6. Haemoglobin method should be equal in accuracy to reference method and Hb linearity must be 0.0- 25.0 mg/dl.
7. Extended platelet counting should be available.
8. True 5-part differential analysis by three dimensional measurements.
9. There should be PC based data management with all scatter plots, histograms on display and in print.
10. Should have automatic probe wipe and wash with open vial, predilute and closed vial modes.
11. Preferably should have provision for using different types of tubes.
12. Must have STAT capability with positive bar code identification facility.
13. Should have user defined rules & flagging limits.
14. Should have database capacity of at least 20,000 sets of results and graphics.
15. Should have workload recording.
16. Should have unlimited number of user-definable control files.
17. Should have auto-stop function in event of unacceptable control data.
18. Should be able to transmit results to host computer.
19. Through put should be around 100 samples/hour in primary mode.
20. Linearity of platelets to be from 0.0 to 3000x1000 cells/µl.
21. WBC linearity should be 0.0 to 400x1000 cells/µl.
22. Must be able to select CBC, CBC + Differential ,CBC + Differential + Reticulocyte, and CBC + Differential + Reticulocyte count + nRBCs testing mode.
23. Must extend analysis time for cytopenic samples (RBC, Platelet and WBC).
24. Must directly measure MCV.

25. Should be able to differentiate between smaller RBCs and larger platelets.
26. Must have autopurge function in the software.
27. The instrument should have a standby mode when not in use.
28. The supplier should have excellent service backup and at least 10 similar machines should be installed in government institiutes / medical colleges.
29. Availability of spares and reagents should be for a minimum of 10 years from the date of supply.
30. Should have at least 20 quality control files which can store 100 runs for each XB analysis.
31. Should have inbuilt autoloader cum mixer with capability of loading minimum 90 samples at any time.
32. Demonstration and training at site of technical staff to be arranged by the supplier.
33. Latest tender specific authentication certificate and USFDA approval certificate.
34. Furniture items e.g. table/chair (branded) required with the instrument to be supplied by the supplier.
35. Instrument should be supplied with a three year warranty followed by CMC for next five years. CMC should include all consumables including PP tubing, PM kit, bulbs , filters and all other consumables and accessories required for the running of the equipment.
36. A compatible, latest branded multitask computer and a laser printer to be supplied with the instrument
37. An all whether AC(Hot & Clod) 1.5 Ton to be supplied and installed with the instrument.
38. The cost of conducting a minimum of 1,20,000 tests for eight years (50 tests per day keeping in view 300 working days in a year for eight years) including all required consumables and third party purchases shall be quoted.
39. Instrument should be supplied with a branded inverter and UPS, the latter with at least 2 hour backup.
40. Price bid should also include cost of all consumable reagents and accessories along with their turnover rate per annum for the 5-part differential and the standby 3-part differential haematology analyser.
41. Cost of calibrator and cost of controls to be quoted in the price bid separately.
42. All prices of reagents and controls to be frozen for next 8 years.
43. There should be no hidden cost in consumables, reagents and accessories and if any shall be borne by the supplier/company
44. The instruments should have 95% uptime failing which a penalty of Rs.5000/- per day after 24 hours of complaint to be levied.

Item No. 2 : SPECIFICATION OF THREE PART HEMATOLOGY CELL COUNTER

1. Must be touch screen and able to report & print all 18 parameter i.e. HGB, RBC, HCT, MCV, MCH, MCHC, RDW, PDW, PLT, MPV, PCT, WBC, LYM# & %,MON# & %,GRA#& %.
2. Should work on COULTER principle i.e counting and sizing.
3. Should have throughput of not less than 50 samples per hour.
4. Should be able to give pathological flags specially indicating for Microcytes, Schizocytes, Melocytes, Metamyelocytes, Lymphoblast, Eosinophillia, NRBCs.

5. Sample volume should be less than 50 µl for all 18 parameters including pediatric sample and a predilutional mode with sample requirement not more than 20 µl.
6. It should be able to do auto numbering in reference to patient Id.
7. Should have bar code reader incorporated.
8. Automatic cleaning of sample probe (Internal &external).
9. Option for open tube & closed tube should be available.
10. Must have floating threshold to separate overlapping of PLT & RBC during sample analysis.
11. Single button start up and shut down.
12. Should have special provision to avoid sample carry over.
13. Multiple counting of samples without extra cost.
14. Should have Hb estimation comparable to reference method
15. Must have RS 232 port and USB ports for data transfer to host computers& data & storage devices.
16. Must have in built or external memory of at least 50000 patient results.
17. Must have in built printer and option for external printer.
18. Linearity limit must be as follows for RBC (0.0-7.00 × 10^6 cells/µl), WBC(0.0-99.9×10^3), PLT(0.0-999×10^3) & Hb (0.0-25.0g/ dl)
19. Carry over for various parameters should be < 2%.
20. Cost of calibrator and cost of controls to be quoted separately alongwith price bid.
21. All prices of reagents and controls to be quoted separately alongwith price bid and frozen for next (8) eight years.
22. There should be no hidden cost in consumables, reagents and accessories and if any shall be borne by the supplier/company
23. Cost per test as follows to be quoted separately alongwith price bid

    CBC + Differential: 75 tests/day
24. Reagent cost for start up , shut down and per cycle cost should be mentioned in price bid freezed for for next (8) eight years .
25. Instrument should be supplied with a three year warranty followed by CMC for next five years. CMC should include all consumables including PP tubing, PM kit, bulbs , filters and all other consumables and accessories required for the running of the equipment.
26. The company should provide start up reagents and consumables for 5000 tests.
27. Must have installation base of at least 25 units in india with good service record.
28. Blood mixer ISI mark for proper mixing of samples to be provided.
29. Latest tender specific authentication certificate and USFDA approval certificate.
30. A compatible laser printer with requisite connecting cable of reputed company for print out of results to be provided.
31. Furniture items e.g. table/chair (branded) required with the instrument to be supplied by the supplier.
32. The instrument is to be installed by the supplier. Any civil and electrical work required for installation to be done by the supplier.
33. An online UPS with ISI mark from reputed manufacturers with back up of at least 2 hours to be provided to run the machine in case of electricity failure.

34. The instruments should have 95% uptime failing which a penalty of Rs.5000/- per day after 24 hours of complaint to be levied.

(2) Nephrology Department

Item No. 1 : Technical specifications for Hemodialysis Machine

Operational Requirement

I. Machine should have facility for variable Sodium, Bicarbonate, Regulated Ultra Filtration, Sequential Dialysis (Isolated UF).
II. Upgradeable to future software developments and can be linked with Patient Data Management System.
III. The blood pump should be able to run at least from 50 to 600ml/min and adaptable to standard A-V blood lines and should run even in the absence of water or dialysis flow

Technical specifications

--Should have facility for conventional dialysis and High flux dialysis, upgradeable for hemodiafiltration.

--Battery back-up for 20-30 minutes to run complete machine with heater supply.

--Should have Na, Bicarbonate and UF profiling.

--Dialysate temperatures selectable between 35 degree C to 39 degree C or wider

--Variable conductivity setting between 12 to 15 mS/cm or wider

--Should have variable dialysate flow at least 200-800 ml/min and should have increasing facility in steps.

--Should have facility to show trends curve of all parameter for 15-20 minutes

--Heparin pump with adaptability of various sizes of syringes up to 50 ml with pump flow rate from 1-10 ml/hr (0.1 ml increments)

--Ultra filtration 0.1 to 2.5 liter/hr or more. The in and out fluid circuit must be separated so that there is no chance of contamination in the event of membrane rupture.

--Treatment parameter should be displayed by graph and digitally both.

--Should have integrated heat and chemical disinfection facility with both short and long disinfection programme with day, night and week schedule.

--Should have accurate feedback control conductivity mixing technique.

--Should have drain facility.

--Should have accurate UF control by flow by volume control measurement technique.

--Should have Blood Volume sensor.

--All important data should be pre-setted so that machine can be used anytime without feeding data every time

--Should have automatic self test facility.

--Should have auto ON/OFF facility.

--Should have user friendly display system-touch button screen and large colour TFT screen.

--Machine can be connected to computer to feed all data and trouble shhot whenever any problem.

--Blood pump rate at least from 50-500 ml/min or wider adaptable to standard A-V bloodlines.

--Alarm for reverse Ultra filtration and also be able to do sequential dialysis.

--On line in build NIBP recording.

--Ability to monitor pulse rate and NIBP with graphic and tabulated trends.

Alarms

--Audio visual alarms on limit violation of conductivity, blood leak, air leak, trans-membrane pressure, Dialysis temperature, Hemodialysis Completion, end of disinfection process, bypass and blood pump stop, dialysate empty.

System Configuration Accessories, Spares and Consumables

System as specified-

All consumables required for installation and standardization of system to be given free of cost

To be supplied free of cost

Bacterial filters-2sets extra, 100 polysulfone 1.5 m2 dialyzers and tubings

Environmental factors

I. The unit shall be capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15-90%
II. The unit shall be capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15-90%

Power Supply

Power input to be 220-240VAC, 50Hz fitted with Indian plug.

UPS of suitable rating with voltage regulation and spike protection for 30 minutes back up

Standards, Safety and Training

I. Should be US FDA/CE (“Conformite Europeene”) /UL/BIS/MOH Japan certified
II. Manufacturer/Supplier should have ISO certification for quality standards.
III. Should carry warranty of three(3) years.
IV. Rate of CMC for next 5 years to be quoted and should have spare parts for next 10 years.
V. Supplier should have adequate experience and maintenance of similar equipment in at least 3 to 4 major hospitals.
VI. Comprehensive training for lab staff and support services till familiarity with the system.
VII. Should build local service facility with reasonable inventory to take care of the service part.
VIII. The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

Documentation

I. User/Technical/maintenance manuals to be supplied in English.
II. Certificate of calibration and inspection
III. List of equipments available for providing calibration and routine preventive maintenance support as per manufacturer documentation in service/technical manual.
IV. List of important spare parts and accessories with their part number and costing
V. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.

The job description of the hospital technician and company service engineer should be clearly spelt out.

Optional:

--Bi-carbonate delivery by solid Bi-carbonate powders (dry system) and online clearance kT/V.

--Automatic diagnosis of malfunctioning with on line ability to show the faults with trouble (technical service Mode)

(3) Pulmonary Medicines Department

Item No. 1 : BiPAP (Bi-level PAP) System with volume assured pressure support system: (One in no.)

1. It should be suitable for Adult and Pediatric patients over 13 Kg of body weight.
2. It should have all the following Modes: Spontaneous (S), Timed (T), CPAP, Spontaneous/Timed (S/T), Assisted Pressure Control Ventilation (APCV) and volume assured pressure support
3. Backup adjustable respiratory rate varying from 5-30 bpm
4. It should have an LCD monitor and monitoring facility for Tidal Volume, RR, Minute ventilation, I:E ratio, Leakage.
5. Should be able to display patient data like: a) Delivered Pressure b) VT c) Leak d) Min Ventilation e) Set Mode f) Resp. Rate s) Graphs for pressure & flow
6. IPAP Pressure 4 to 30 cm H2O or more
   EPAP Pressure 4 to 25 cm H2O or more
   CPAP Mode 4 to 20 cm H20
7. Sensitivity: should have different trigger and cycle settings
8. Range of rise time and fall time. Rise Time 100-900 ms and fall time: 100-400ms
9. Model Should be USFDA & CE/IEC approved
10. Range of Alarms
11. Light weight and portable
12. Should be provided with easy to carry travel bag
13. Accessories: Power cord, silicon Reusable (Autoclavable) 2 small size Full face masks, 5 medium size Full face masks, 1 large size Full face mask and 2 medium size nasal masks. All the masks must be vented.
14. It should be supplied with Heated Humidifier.
15. Should have a provision to download data via cable or SD card.
16. Automatic leak detection and compensation for at least 30 Liters.
17. Air filter: preferably reusable
18. Facility for nebulizer attachment must be there in the mask and through the tube through T-piece. Four T-pieces should be supplied.

19. Operating voltage 220-240 v, 50 HZ.
20. In case of malfunction/breakdown, the company should provide temporary back-up support within 48 hrs of registering the complaint till the time machine is repaired and returned.
21. The company should give the certificate that the model quoted is the latest and not obsolete; and spares will be easily available for next 5-7 years.
22. Three-year comprehensive warranty. Comprehensive CMC for 5 years after completion of warranty.
23. Battery backup at least 2 hours

Item No. 2 : BiPAP (Bi-level PAP) System (two in No)

1. It should be suitable for Adult and Pediatric patients over 13 Kg of body weight.
2. It should have all the following modes
   Modes: S/T (spontaneous/Timed), PAC (pressure Assisted control), CPAP (Continuous Positive Airway Pressure), S (Spontaneous), T (Timed).
3. Should incorporate latest algorithms for leak compensation and synchronization.
4. It should have color screen for real-time monitoring
5. IPAP Pressure 4 to 30 cm H2O or more
   EPAP Pressure 4 to 20 cm H2O or more
   CPAP Mode 4 to 20 cm H20
   Backup adjustable respiratory rate varying from 5-30 bpm
6. Sensitivity: should have different trigger and cycle settings
7. Timed inspiration 0.5 to 3.0 sec
8. Rise Time 100 to 600 msec
9. Model Should be USFDA & CE/IEC approved
10. Leakage indicator and Alarms. Should include user adjustable alarms and essential non-adjustable fixed alarms for patient safety.
11. Light weight and portable
12. Should be provided with easy to carry travel bag

13. Accessories: Power cord, silicon Reusable (Autoclavable) 2 small size Full face masks, 5 medium size Full face masks, 1 large size Full face mask and 2 medium size nasal masks. All the masks must be vented.
14. Should include humidifiers.
15. Should have a provision to download data via cable or SD card.
16. Air filter: preferably reusable
17. Operating voltage 220-240 v, 50 HZ.
18. In case of malfunction/breakdown, the company should provide temporary back-up support within 48 hrs of registering the complaint till the time machine is repaired and returned.
19. The company should give the certificate that the model quoted is the latest and not obsolete; and spares will be easily available for next 5-7 years.
20. Should have built in internal battery for minimum 2 hours of back up time.
21. Should have oxygen inlet port to accept higher flow up to 30 L/min of oxygen to achieve a high FiO2 with built in FiO2 monitoring.
22. Accessories (to be supplied with each unit):
    Nasal masks (reusable, adult size) – 1
    Full face masks (reusable, adult size) – 4
    Tubing – 2 sets
    Air filters – 5
    Carry bag – 1
    All necessary devices/cables to transfer data to a computer.
    Company has to provide training to all staff, as & when required.
23. Should be quoted with 3 year warranty. Comprehensive CMC for 5 years after completion of warranty.

Item No. 3 : SYRINGE INFUSION PUMPS: six in no.

1) The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system.

2) Must Work on commonly available standard 5ml, 10ml, 20ml, 50ml, 60 ml Syringes with accuracy of minimum of +/-2% or better, with automatic syringe size recognition.

3) European CE or US-FDA approved product.

4) Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1

ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.

5) Bolus rate should be programmable to 40 to 1000 ml/hr or more with infused volume display and one key press bolus. Reminder audio after every 1 ml delivered.

6) Display of Drug directory of more than 50 drugs, customized and adjustable.

7) Key board locking system for patient safety.

8) Keep Vein Open (KVO) must be available at 0.1 ml or set rate
User should have choice to disable KVO whenever desired.

9) Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg.

10) Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc.

11) Manual pusher with plunger protection guard.

12) Anti bolus system to reduce pressure on sudden release of occlusion.

13) Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow,
Low battery pre-alarm and alarm, AC power failure and Drive disengaged alarm.

14) Rechargeable Battery having at least 1 hours backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.

15) Mounting device/ Docking Station for at least four pumps as per requirement so as to
enable to power up to 4 pumps with one power cord when mounted on IV pole –Twenty
nos.

16) The unit shall be capable of stored and operating continuously in ambient temperature of 10 - 50deg C and relative humidity of 15-90%

17) Power input to be 220-240VAC, 50Hz.

18) Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.
19) User Manual and service manual in English.
20) Should have local service facility. The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
21) List of important spare parts and accessories with their part number and costing.

Item No. 4 : Fiber optic Bronchoscope:

1. Field of View should be 120 degree or more
2. Depth of field should be 3 – 50 mm or better
3. Distal end diameter should be 6.3 mm or less
4. Insertion tube diameter should be 6.2 mm or less
5. Channel diameter should be 2.8 mm or wider.
6. Minimum visible distance 3 mm from distal end
6. Should be light weight
7. Working length should be 600 mm or more
8. Total length should be at least 860 mm
9. UP and DOWN Angulations should be 180 degree and 130 degree
10. Compatible with diagnostic and therapeutic high frequency treatment devices like electro surgical procedures
11. Can be fully immersed in disinfectant solution and water
12. Should have autoclavable suction valve to avoid cross-contamination risk.
13. Leakage check by automatic pressure regulated leak tester.
14. Must be compatible with our existing Pentax video processor system (Model-EB-1970K Serial no: G121066)
15. Must have USFDA certification.
16. Should have 3 years warranty and 5 years CMC subsequently.

17. Should provide connector or stylet to introduce Fogarty balloon catheter (8/14F)

Fiber optic Bronchoscope with CCD camera system (one in no.)

1. Field of View should be 120 degree or more
2. Depth of field should be 3 – 50 mm or more
3. Distal end outer diameter should be 6.0 to 6.2 mm
4. Insertion tube diameter should be 6.2 mm or less.
5. Channel diameter should be 2.8 mm or more
6. Should be light weight and easy to use
7. Working length should be 600 mm or more
8. Total length should be at least 890 mm
9. UP and DOWN Angulations should be 180 degree and 130 degree
10. Should have telescopic eye piece
11. Can be fully immersed in disinfectant solution and water
12. Should have autoclavable suction valve to avoid cross-contamination risk.
13. Should have facility to check leakage by automatic pressure regulated leak tester.
14. Should be compatible with halogen light source.
15. Should have 3 years warranty and 5 years CMC subsequently

Specification of halogen light source (one in number)

1. Compact and light weight
2. Should be compatible with automatic leakage tester
3. Should have inbuilt air pump

Single chip CCD camera system(one in no)

Camera head:

1. High resolution inter-line CCD solid state image pick
2. High Quality Image by 10 Bit DSP (Digital Signal Processor)
3. Resolution (at center) – Horizontal – 470 TV Lines
4. CCD Size – Quarter Inch or Less
5. Signal Noise – less than 50 dB
6. Size – 23 d X 46 l mm
7. Brightness – 1.8 (4 Lux)
8. It should be Water Proof.
9. It should be compatible with fiberoptic endoscope with moisture filter.

Camera Control Unit (one in Nos) :

1. Auto Gain Control + 9 dB

2. Electrical Shutter – Always ON (1/50 – 1/100,000)

3. Signal output Y/C – 2 no. and BNC – 1 no.

4. Size – Dimensions – 220(w) x 48(h) x 290(d) mm

6. White Balance – Automatically adjusted by the Button on the Front Panel

7. Brightness Control – It is possible to adjust brightness by using electric shutter on the rear panel

High Resolution Monitor: (one in No.)

At least 21 inch WXGA LCD panel (at least 1280x768 pixels)

Full range of analog SD inputs - composite NTSC and PAL, S-video, RGB

High purity color filters

High-brightness and contrast (at least 16.7 million colors)

Wide viewing angle of at least 175 degrees

Power consumption 230V

Weight less than 7.5 kg

Essential Accessories (should be manufactured by scope manufacturing company and should be USFDA/European CE approved) :

a) Reusable alligator cup with needle swing jaw biopsy forceps - 2 in no

b) Reusable rotatable round cup biopsy forceps- 2 in No.

c) Reusable ellipsoid round cup biopsy forceps- 2 in No.

d) Reusable TBNA needle with trocar- 10 in No.

e) Reusable rat tooth grasping forceps (with opening width of minimum 3.5 mm)- 2 in No.

f) Reusable rubber tip grasping forceps- 2 in No.

g) Biopsy valves- 10 in No.

h) Suction valves- 10 in No.

i) Reusable cleaning brushes- 4 in No.

j) Reusable Bite blocks- 2 in No.

k) Leakage tester- one

l) Cleaning and Maintenance kit- one in No.

Others:

1. Operating voltage 220-240 v, 50 Hz.

2. It should be USFDA or European CE approved.

4. It should come with compatible movable trolley (one in No.)

6. Should have 3 years warranty and 5 years CMC subsequently

7. Individual price for all items and accessories should be quoted separately

A. Computer (One in No.) - Intel i7 3.2 GHz processor or better(3rd generation), at least 2 Terabyte hard disk, at least eight GB DDR3 RAM, DVD writer, at least 21" TFT monitor, at least four USB 3.0 ports, original Windows 7,UPS with power backup of at least 20 minutes; with UPS stabilizer

b. HP color laser printer

C. All necessary catheters, adapters, cables, software CDs and manuals

D. Original software for image capture and report documentation made by scope manufacturer company

E. Voltage stabilizer/UPS

Item No. 5 : Reusable balloon catheter: one

1. It can be used for control of hemoptysis or selective BAL
2. It should be compatible with our existing Pentax or Olympus Bronchoscopy system
3. It should be X-ray visible and kink resistant
4. Minimum working channel should be 2.0 mm
5. Working length 1050-1100 mm
6. Balloon should be 5-7 Fr.
7. All accessories for balloon catheter should be provided

(4) ANAESTHESIA DEPARTMENT

Item No. 01. Anesthesia Workstation system

Gas Flow System

Machine shall provide accurate flow of Oxygen, Nitrous oxide and Air through single or dual flowmeters for accurate mixing and be suitable for low and minimal flow anaesthesia.
At least one source of High pressure Oxygen and Nitrous oxide with Gas regulators should be present
Master On/Off Switch or ventilator On/Off switch should not cut off anaesthetic gases flow so as to allow manual ventilation in the event of Power Failure/ Electrical faults
Should provide two or three Drawers below the working table.
Hypoxic Guard should be provided with Minimum Concentration of Oxygen / N2O mixture should be set between 19% and 30%
Should have open to closed system switch
All components should be from the same manufacturer and be compliant to ASTM 5358 standards

Vaporizers

Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.
Vaporizer shall require no tools to mount.
Vaporizer shall mount to a Selectatec type manifold which allows easy exchange between agents.
Vaporizers must be from the same manufacturer for Desflurane, Enflurane, Sevoflurane, Halothane and Isoflurane.
Should not require service/ preventive maintenance before 5 years from the date of installation
Replacement warranty will have to be given to replace the vapourisers become defective within this period except for mechanical damage

Breathing system

Breathing system shall be fully autoclavable to134° C and natural latex free. It should be compact. No tool should require for removing.
Total circuit volume shall not exceed 3 L, including Absorber volume.
Breathing system shall have integrated.
Volume sensing shall be of a type that does not require daily maintenance.
Ventilator bellows shall be integrally mounted to the breathing system.
Adjustable pressure limiting valve shall be flow and pressure compensated.
Machine shall provide circle mode breathing circuits.
Components coming in contact with patient gas shall be disposable or autoclavable.
FIO2 monitoring should be available as standard.
Common Gas outlet should be standard supply for connecting open circuit.
CO2 bypass facility should be available.
It should have passive scavenging port as standard.

Ventilator System

Integrated ascending bellows in box or Piston Driven ventilator compatible with low flow anaesthesia techniques suitable for adult and pediatric patients without change of bellows should have following specifications:

The ventilator display should be integrated in the anaesthesia machine

Ventilator shall have a calibrated Volume Control operating mode which allows pre-setting of desired tidal volume, rate, I:E ratio, safety pressure limit and electronic PEEP before connection to the patient.

Ventilator shall have a calibrated Pressure Control mode which allows pre-setting of desired inspired pressure, rate, I:E ratio, safety pressure limit and electronic PEEP before connection to the patient.

Ventilator shall have a tidal volume compensation. Operates on a breath-by-breath basis and does not require special calibration.

Ventilator display shall have a variable pressure waveform scale,

Ventilator shall have a variable pressure waveform length in seconds, which varies with the rate setting.

Ventilator shall be capable of 75- 120 L/min peak flow .

The ventilator shall not over deliver volume to the patient in the event of a bellows installation error, leak or rupture.

Ventilator shall have a “bag mode” to allow manual ventilation totally separate from the electronic component of the system.Ventilator display should be minimum 7” colored or above and display the waveform & digital parameters.

Battery backup: Shall have minimum 30 min for Anesthesia

Machine, vaporizer and ventilator should be of same manufacturer.

Manufacturers should have supplied and maintained the Anesthesia equipments in Indian market minimum last 5 years

Machine should have Approvals: European CE/FDA

Original Catalogues from the manufacturer should be enclosed in the technical bid. Claims of the bidders so as to the compliance of specifications will not be entertained and the bids will be rejected in the absence of original literature and catalogues

Item No. 2. OT Light Mobile Type

Technical Specifications

Surgical lights illuminate the surgical site for optimal visualization of small, low-contrast objects at varying depths in incisions and body cavities.

The light should have one dome having facility of brightness adjustment from 10 to 100 %. Should be shadowless.
Should be White Hybrid LED based microprocessor control technology and should provide the best shadow compensation.
The dome should have diameter 60 to 70cm.
Intensity at 1-meter distance should not be less than 1,20,000 lux.
Variable Color Temperature: 3600K - 5000 K Variable
Having on off switch and light intensity control
The light should have 1 hr inbuilt battery back up.
Circular dome type for homogenous luminous field with shadow free lighting.
The contrast between the lighted area and the surrounding should not cause stress to the surgeon's eye.
Depth of illumination for dome should be should be at least 150 cms.
Illuminated field diameter should be approx. 20-30 cms.
Increase in temperature near head should be specified and not be more than 2 degree C.
Color rendering index (CRI) should be 93 – 98.
Height adjustment approx 1 meter.
LED life span of dome should be 40000 or more Hrs.
Light field adjustment by sterilisable handle as well as with touch screen control pad mounted on light suspension.
All suspensions, mounting and supporting systems should be from the parent manufacturer. Locally fabricated/ manufactured/ assembled parts will not be accepted
The mobile light should have castors preferably 4" or larger with locks
Similarly the battery backup should be inbuilt by the manufacturer, locally made inverters/batteries will be rejected.
Should be USFDA approved.

Original Catalogues from the manufacturer should be enclosed in the technical bid. Claims of the bidders so as to the compliance of specifications will not be entertained and the bids will be rejected in the absence of original literature and catalogues

Item No. 3. Noiseless Suction Unit

High quality durable vacuum suction machine for use in Operation Theatres and intensive care units should be quoted with following specifications

- It should have maintenance free piston/cylinder technology which should be heat resistant with high-tech material for long lasting dependable operations.
- It should have 2 autoclavable PSU (Polysulfone) jars of 3 l with change over switch from one jar to another jar.
- It should be noiseless and vibration free.
- It should have high flow rate of at least 30 l / min. with (-600 or better lower mmHg).

- It should have a large vacuum gauge in kPa and mmHg with easy to turn membrane vacuum regulator to set precise vacuum levels.
- It should also have foot on/off switch for hand free operation.
- It should have sleek design and sleek trolley with antistatic castors with brakes.
- It should be made with high quality housing material.
- It should be well reputed international company only.
- It should be European CE or USFDA approved.

Item No. 4. Multifunction Patient Monitoring System along with CMS

Advanced high end modular patient monitor having integrated non-invasive, invasive measurement & features suitable for neonate, pediatrics & adult patients.

Monitor must have bright, highly visible minimum **19"** color TFT display with full touch screen facility.

Monitor must have the facility to display min 12 waveform or more, along with related numerical parameters on single screen.

Monitors must be able to monitor ECG, SpO2, NIBP, Respiration, dual temp, dual IBP, modular ETCO2 and minimally invasive Continuous Cardiac Output simultaneously. Out of these mentioned parameters ECG, Respiration, NIBP, SpO2, Invasive pressure and Temperature should be monitored through one server/ module, which should have display of these parameters with waveforms on server/ module itself. It should have its own battery backup of 2-3 hours

Monitor must be ready to connect for CO (Thermo dilution), BIS, NMT Module, ICP monitoring, three IBP, Spirometry, EEG module and it should be capable to monitor all these parameters simultaneously along with parameters mentioned under point no.4

Monitor must have advanced arrhythmia detection and ST Analysis as standard feature.

System must have minimum 24 hours review data including graphical and tabular trends, arrhythmia event recalls.

Monitor must have the time linked review function. Monitor must show the waveforms for the time when the arrhythmia occurred in case of arrhythmia recall.

Monitor must have facility to display 12 lead ECG through 5/6 lead ECG cable

Monitor should be capable of Sepsis screening with Sepsis protocol watch tool.

Monitor should have ST segment calculations

Must have facility to hook up with network printer, at any point of time and able to take print any review data (Trends, Graphs, waveform full disclosure, arrhythmia recall etc.)

Monitor must be able to connect to central monitoring station and should use single network for all kind of networking with the central station or other hospital information system (HIS)

Monitor must be U.S. FDA or European CE approved.

Each monitor to be supplied with following:

a. 5 Lead ECG electrode cable 2 No. each

b. Adult, Pediatirc and neonate SpO2 probe – 2 No. each (Ear lobe probes for neonates)

c. NIBP cuffs for Adult, Pediatrics and neonates – 2 no each (of different sizes)
d. Temp Probe – 2 Nos. (skin & esophageal one each)
e. IBP connection cable – 03 Nos.
f. IBP Disposable Pressure Transducers – 10 Nos
g. ETCO2 sample line: 10 nos (if applicable)
CMS of 32" LED to be provided with one laser printer.The cabling has to be done by bidder in the ICU One CMS with 16 monitors to be quoted separately at optional price
One module each for ECG, SpO2, NIBP, Respiration, dual temp, 2IBP, EtCO2 for each monitor(independent/dual)
Modules of minimally invasive CO monitoring, NMT, EEG and spirometry, BIS/Entropy to be quoted separately
To provide suitable facility for sending and receiving DICOM compatible radiological images like Ultrasound, X-ray etc to and from monitoring network to and from HIS, RIS etc for integration of various information on the same patient monitor screen. **(Optional-Price to be quoted separately)**
Patient Monitor supplier firm should be capable to upgrade the ICU with Electronic Charting and integration with other ICU equipments like Ventilators and Syringe Pumps etc. **Price for per bed ICU integration with electronic charting to be quoted separately.**
Optional integration to be done considering one ventilator, one patient monitor, one rack of syringe pump at each bed side (only in ICU).
Demonstration of equipment is essential.

Item No. 5. Technical Specifications for Portable Defibrillator
For the department of Anaesthesia & Intensive care
The defibrillator should display ECG from Paddles and ECG Cable
The Defibrillator must be based on Bi-Phasic Technology with facility.
The System should have energy selection 01 to 200 joules.
The system should have low energy selection with increment of 10J or less.
Defibrillator charging time should be less than 7 seconds on a fully charged battery.
The unit should have ability for synchronized cardio version.
Preferably should have facility for self checking and estimation of chest wall impedence
Should work on AC Mains and with rechargeable battery backup both.
Defibrillator must be able to deliver more than 30 shocks of 200 joules after fully charged on battery only.
Unit should work on power 200 – 240 V/50Hz.
The unit should be portable with a weight less than 7.5 kgs.
Audio-visual alarms and notifications
Should give feedback about the adequacy of paddle contact
The monitor should have at least 5" (inch) or more high resolution screen with two or more channel displays.
The unit should be supplied with paediatric and slip off adult chest paddles for defibrillation.

2 sets of External Paddles and ECG Cables should be supplied with each unit
Accompanying warranty for 3 years and CMC for 5 years. Warranty and
CMC will include replacement of each and every malfunctioned/ defective spareparts. **The quoted rates for consumables mentioned separately and price frozen for 07 years including warranty and CMC period.**

Item No. 6. Video- Laryngoscope

Laryngoscope required with video illumination to visualize and document the operational area on screen. It should consist of following features:

Required is Macintosh blades with closed European Metal finish size2, 3 and 4 with integrated camera chip and LED light illumination for obtaining more than 50000 Lux of brightness.

- One special blade for difficult intubation with device for introduction of suction catheter for size 16-18 Fr., angle of view should be approx 80 degree.
- One miller size 0 & 1 blade should present in the set.
- Must have technology platform based on a video camera integrated with the blade for display of airway structures
- Screen 7inch or more in size for display with feature control buttons on the screen with composite output for connecting to a big screen.
- Automatic/ manual white balance facility should be available
- Integrated video as well as still picture recording should be possible on data card or USB drive with JPEG and MPEG4 format which can be easily transferred to the computer/laptop.
- Magill forceps for foreign body removal and for assisting nasal intubation.
- Safety bag or box for screen to be provided
- IV Stand for positioning the monitor , with tray for laryngoscopes should be provided
- Accessories like protection cap, tray for cleaning and sterilization of blades (at least two blades at a time) should be provided
- Blades and connection cable should be fully immersible in disinfecting solution
- Equipment must meet US FDA performance and safety standards appropriate for human video-laryngoscopy equipment.
- A clinical demonstration of the equipment has to be made at the IGMC Shimla.

Item No. 7. Flexible Intubation Video Endoscope With the Screen

A set of two pieces of Intubation videoscopes one for adults and the other for pediatric patients should be quoted with following specifications:

· Flexible Intubation Endoscope with CMOS chip on tip for digitally transferring the image to the screen. There should be NO Optical Fiber bundles. Intubation Endoscope to display Full Frame 4:3 Imaging, replacing the circular display windows. The image can be displayed directly on a small TFT monitor attached to the screen

· Screen 7 inch or more in size for display with clearly arranged soft keys for immediate use. The screen should have Composite output for connecting to a big screen.

· Automatic/ manual white balance facility should be available on the monitor as well as on the scope

· Documentation of Video & still images should be possible on data card or USB drive with JPEG and MPEG4 format which can be easily transferred to the computer/laptop. Documented videos & still images should be easily recalled on the monitor

· Screen should be rechargeable & runs on Lithium Ion Batteries (operating time- 1 hr or more)

· It should be light weight , high resolution & potable flexible scope

· Airway Guide (cum Bite block) for Oral intubation should be provided with the set (at least 10 airways)

· TUBE HOLDER should be a part of standard accessory

· Set should include- Suction Adaptors (Disposable), Cleaning brush & Leakage tester as standard accessories

· Suitable for following applications-

- Bronchoscopy
- Endotracheal Intubation (Gold standard for Difficult Airways)
- Foreign body removal
- Bronchial Lavage
- Inspection of the Airways
- Dilatation Tracheotomy

Technical Details of Flexible Video Endoscope-

a) Tip deflection UP/DOWN: 140°/140° ,
b) Angle of view 85° or more,
c) Working Length: at least 65 cm,
d) Total length: at least 93 cm,
e) Working Channel diameter: at least 2.2 mm,
f) Distal Tip Outer Diameter: 5.2 mm or more for adult application and 4.0 or less for pediatric applications

Item No. 8. Specification of Syringe Infusion Pump

1. Programmable flow rate from 0.1ml/ hr to 400 ml/hr.
2. Should be light weight not more than 2kg.
3. Facility for bolus drug administration.
4. Facility for 'Keep Vein Open' by slow administration of fluid.
5. Selectable occlusion pressure levels.
6. Standard alarms, e.g. mains failure, occlusion, syringe empty, syringe not in proper position, pause Overtime, low-battery, motor failure, incorrect specification, electrical circuit jam etc.
7. Backlit clear display of information.
8. Should run on 220-240V AC mains without any external adapter/transformer etc.
9. Internal battery backup for at least 4 hours
10. Should be compatible with a variety of syringes available in the Indian market, in10,20,30 and 50/60 ml sizes.
11. Automatic detection of syringe size.
12. Clearly structured keypad for fast and intuitive operation.
13. Should be mountable on standard iv stands.
14. The unit must have CE/FDA approved
15. Warranty: 36 months from the date of installation.
16. CMC for 5 years after the period of warranty.
17. The unit should comply with all regulator agencies such as CE, etc.
18. The firm will have to demonstrate the equipment at the institution before opening the price bid, at their own cost.

Item No. 9. Technical Specifications for Ultra-sound Machine for Anaesthesa & ICU Applications:

A State of the art Premium high end compact hand carried, light weight Color Doppler System with the following specifications:

1. Color Doppler Ultrasound system should be based on all digital architecture with Imaging and should be suitable for vascular excess (CVC placement,PICC)Nerve blocks(Lower as well as upper extremity),E-Fast examination ,AAA Exam , small parts ,applications in adults, obs& gynae and paediatric patients and also suitable for echocardiography & interventions. Optional multiple preloaded applications presets.
2. **General Specifications**: - Please specify Dimension and weight of the system. screen size should be 12 inches or more and wt. of the system **should not be more than 7kg** which can be hand carried or mounted on trolley
3. The system should have a fast Boot up time getting on less than 60 sec to switch on.
4. System should also have 1-2 hrs of inbuilt battery backup or more
5. Console Design:-
   a. System should **have integrated mounting of 2 probes or more** without the need for disconnecting the probes

6. The system should have a large image memory capacity – for storage of more than 25000 or more images or 30 min of total clip storage or more

7. **System should have atleast 2 or more inbuilt USB port for easy data transfer**
8. **Monitor:** - System should have a High quality Flat Panel Display of 12 inches, with tilt facility with high resolution display
9. **Operating Modes**:- The system should incorporate facility for High-resolution 2D, M Mode, PW, CW, Color Flow Imaging, Doppler Imaging, modes and any other advance feature in color flow / power imaging Please specify.
10. The system should have 256 Grey shades.
11. The system should have adjustable 2D image size (without zoom) up to 2 levels.
12. The system should have a display depth of at least 25 cm or more
13. Display Patient Information Page: - Patient Name, ID ,Hospital Name.
14. Patient search should be possible by ID, Name, date and study.
15. System should offer the facility of Storage of Images directly to desired memory as HARD DISK , USB , CD/DVD.
16. The system shall offer Harmonic imaging in Power Doppler Imaging mode for improved sensitivity and specificity in differentiating blood/agent from tissue.
17. The system should have image zoom facility.
18. M-Mode sweep speed adjustment in real time.
19. Basic measurements should be possible on saved and recalled images.
20. Multiple Focus points should be available to enhance 2D resolution of particular region of interest.
21. The system should have Harmonic Imaging. The system shall support Tissue Harmonic Imaging capability on phased, linear, Transvaginal and curved array transducers
22. The system should have Doppler measurement facility in real time and post freeze images.
23. System should be compatability with dedicated software compatible with PC to review, post-process and printing of exams performed with the main ultrasound system on a PC working with Windows XP /Vista or any upgraded version of windows.
24. The system should have in built CD / DVD read and write capability external CD and DVD will not be accepted
25. System should have capability of transferring patient data on memory stick

The following probes should be supplied as standard

i. Linear Array Probe with frequency range of around 3 Mhz to 12 Mhz for vascular access in IJV, Femoral and sub clavian vessels and Nerve block
ii. Phased array cardiac probe with frequency range around 1 to 4 MHz .
iii. Convex probe with approx 2-5 mhz probe for fluid tapping
The machines should be En CE/ USFDA approved.

Additional equipment like transducer connectors and lackable trolleys should be quoted

Item No. 10 : Multiparameter monitor: (Mid Range for Recovery Rooms, Step Down ICUs and HDUs)

Should have a minimum 12" or more color CRT/TFT display

Should be suitable for the monitoring of wide variety of patients in Recovery Rooms, HDUs and step down ICUs etc

Monitor should have port for connectivity to central nursing station & hospital local networking system interfacing facility

Should have a neonatal to adult usage.

Should be able to display 6 or more waveforms along with related numerical parameters on a single screen.
The monitor should give choice of selection of the parameters to be displayed as waveforms
Should have single and multiple parameter modular system. Should have space saving design with minimum cable clutter
Should display following parameters

• ECG/Respiration

1. Should have heart rate range from 20-250 or more beats/mt
2. Should have Auto, ECG or Plethysmograph as source for heart rate.
3. Should have adjustable heart rate tone.
4. Should have 12 lead selections.
5. Should have sweep speed of 12.5/25/50mm/sec
6. Should have auto as well as manual gain selection
7. Should have protection against electrosurgical interference and defibrillation
8. Should have ST segment analysis
9. Should have software standards for lethal arrhythmias, Vfib, Vtach, Asystole, advanced arrhythmia and alarms
10. Should display audio, visual alarms.
11. Should have impedance as a method to know respiration
12. Should display a range of 0-99 breath pm for respiration

• NIBP

Should be based upon Oscillometric method
Should have manual/auto/stat modes
Should display systolic, diastolic and mean arterial pressures
Should have a scale in mmhg
Should have a range of 1- 120mts for repeat cycle
Should have a cuff pressure range of 0-300 mmHg for adults and 0-150 mmHg for neonates
Should have a range of systolic BP from 40-250; diastolic BP from 20-200 and
MAP from 25-220 mmHg

• Pulse Oximetry

Should have saturation range of 0-100% for adult, child and neonate
Should have a accuracy of +- 2% at 70-100% range and +- 3% at 50-69% range
Should have a HR range of 30-250bpm
Plethysmographic waveform display
Dual wavelength LED pulse oximetry
Should be capable of measuring oxygen saturation even in case of motion artifact
(patient motion or movement), low perfusion & intensive ambient light

• Temperature

Should have 2 channels
Should display T1, T2 and change in T

Should have a range of 0-50 degree C
Should have a resolution of 0.1 degree C
Should have a accuracy of +- 0.1 degree C
Should provide skin and oesophageal/ rectal probe

IBPs:

Should have 2 IBPs and upgradable to 3 IBPs
All accessories including reusable pressure transducers, disposable domes etc should be quoted and their prices should be quoted separately with validity of at least 5 years

$ETCO_2$:

Side stream $ETCO_2$ preferrably microstream should be present and the monitor should display its wave form in addition to digital values

• Trends

Should have atleast 48 hrs trend storage of all parameters in graphic and chart form
Should provide user configurable graphical and numerical trend pages for providing complete historical view to patient status
Should have trend cursor in both graphical and numeric trends
Should have waveform snapshot to store and recall waveform samples for historical review.
Should have a facility to printout trend data on a printer

• Alarms

Should have alarms display and adjustment facility. There should be facility for
Setting and suspending alarms
Should have adjustable alarm limits (high and low)
Should have both audio and visual alarms

• Power supply/ Battery

Should be able to operate according to the Indian standards of electricity supply as well as on battery
Should provide lithium ion/ nimh or equivalent technology battery with minimum battery backup of 3hrs after fully charging
Should display battery status indicator
Should have a battery charge time between 3-5 hrs.
Should be able to upgrade in future for sidestream CO2 monitoring, gas monitoring, invasive Blood pressure monitoring, BIS monitoring.
Should have interfaced record keeper for documentation of drug entries, events and

ACCESSORIES

Should provide following accessories with each monitor
ECG cables 5 lead----------2 pieces each with at least 5 packet of electrodes
NIBP cuffs---------- 4 for adults, 3 for Paediatric and 2 for neonatal use
SpO2 probes 2 each for Adult and Neonatal complete with extension cable
1skin probes and 1 rectal/Esophageal probes
Rolling stand for mounting the monitor with attached baskets to keep its accessories should be quoted separately as optional

Operator & service manuals in English
WARRANTY AND CMC
Should provide a minimum warranty of 36 months after the date of installation
Should provide CMC of 5 years after the date of expiry of warranty.
Should provide User list & satisfactory certification of after sales service
Demonstration of quoted model to be provided during the technical evaluation at Hospital / Department.
The equipment should be US FDA or European CE certified

Item No. 11 TRANSPORT VENTILATOR

Should be Microprocessor controlled Adult & Paediatric (upto 5 Kg.) ventilator, Light weight upto 10 kg(max) with battery. Should be easy to use with precision controls.
Should have multiple choices for powering the unit among with the following
AC 230 Volts +- 10% 50 Hz single phase
Built in Rechargeable battery with back up for 3 hours or more (Includes Driving System).
Should also work with 12 volts DC from ambulance lighter jack/cable. (cable should be provided)
The battery should be not swappable. A total back up of 6 hrs. should be available.
The unit should work with air (21%of Oxygen) in absence of Oxygen gas source.
Should have built in turbine/piston system to deliver gases (air & Oxygen) to the patient in variety of clinical setting.
Should have tidal volume range of 50-1500 ml or more, frequency range of 1 to 60 BPM ore more & I:E ratio of 1:1 to 1:9.9
Should have pressure support 5 to 30 cm H2O & PEEP/CPAP of 0-20 cm H2O, Inspiration time 0.3 to 3 sec. Peak Inspiratory Pressure 10-60 cm H2O or more.
Should have VCV(A/C, SIMV), PCV (A/C, SIMV) and PSV, Manual ventilation, Apnea backup ventilation along with non-invasive BIPAP with at least 50% leak compensation.
Must have a compact LED/LCD display of not less than 5" in size, showing all the set and patient parameters, graphs etc. The display parameters should be visible in outdoor light conditions.
Ventilator should have screen for viewing measured parameters like Volumes(both Insp. & Exp), pressure frequency, PIP, Delivered VT, I:E ratio, PEEP and Fio2 Percentage.
It Should also display electrical power sources (Internal/External) battery level.
Should have both flow and pressure triger.
Should have adjustable alarm setting & Alarms for
Low/high pressure, Apnea
Low power/power failure, Low Battery
Disconnection from patient. External Oxygen low pressure failure/low/failure.
Low fio2, Low tidal volume/low minute volume.
Should have low pressure oxygen supplementation oprt from oxygen flow meter/oxygen concentrator.

Must have an integrated Mixer for mixing air and oxygen with variable fio2 setting of 21% to 100%.
Should have facility to connect high pressure (50psi) Oxygen source/ low pressure / low flow Oxygen source (10 psig)
Each ventilator should be quoted with following accessories
Main unit with standard battery, power cord, mounting accessories, operational manual
Reusable patient circuits suitable for pediatric and adults (2 Nos. each)
Should be able to use conventional disposable ventialtor circuits. To be supplied with 10 pcs. Of Adult and 5 pieces of pead circuit.
12 Volts DC cable for Ambulance/Helicopter.
Compatible mobile stand for use of ventilator in ICU settings.
Manufacturer made Carry case or Carry Bag.
2 sets of two-stage pressure regulator and 2.5 mtr of High pressure tubing for oxygen with adaptors to be supplied with each ventilator.
Should have sound level of < 45 dB during operation.
Should be lightweight, compact design, rugged and easy transportable and should have operating altitude of at least 15000 ft.
Should have rugged and capable for rough handling.
The unit should preferably be 'Drop Resistant'
Should be US FDA/EnCE certified/approved.
The equipment should preferably be air worthy certified by CEMILAC/FAA(US stds)/ European equivalent.

ITEM NO. 12 : ANAESTHETIC GAS SCAVENGING SYSTEM – AGSS

An Active anaesthetic gas scavenging system comprising of gas-collecting assembly or Receiving unit, the transfer tubing, scavenging interface, the gas disposal assembly tubing and an active gas disposal assembly (Vaccum pump is required for a complex of 9 OTs distributed in two floors.

1. All parts should meet " American Society of Testing and Materials (ASTM : F1343-02) standard and international standards.
   or
2. The system should comply with HTM02-01 and HTM2022 standards or NFPA Standarads for AGSS or BS EN 737-4:1998**,** BS EN 737-2:1998**,** BS EN 740:1999, BS 5724-2.204:1999

However the Collecting assembly and Transfer Tubing must specify to 30 mm connectors present on the exhalation valves of most of our breathing equipment
Tubing must be sufficiently rigid to prevent kinking to minimize the chance of occlusion

Vacuum Pump

1.Should have heavy duty high efficiency motors with class-F insulation as standard equipment.
2. Should have minimal vibration.
3.Should require low start-up current which reduces the cost involved with installing a larger electrical circuit
4.Should be quiet : Noise level should be minimum.

5. Should be air cooled, meaning no water is ever needed for cooling and operation.
6. No water : System should not use water for any reason.
7.100% oil Free : Should not use oil to fill, drain, change, or discard.
8.Systems should be fitted with high quality Side Channel Vacuum Pumps.
9.Extraction flow rate 80L-130/Min: should be capable of providing a flow rate between a maximum of 130L/min a kPa resistance to flow and a minimum of 80 L/min with a kPa resistance to flow at each terminal unit.
10. Induction flow rate (As low as possible) : 0.5 L/Min
11. All remote start switch panels shall incorporate a green indicator light, which illuminates when the exhauster unit is selected and operating.

Note: Overall flow rates must be suitable for the gas scavenging of 12 OTs working simultaneously

The Power requirement for the system must be clearly mentioned in terms of Voltage and Electricity Phases.. Whether single phase or III-Phase.

Also the space requirements for the vacuum pump must be clearly specified. Electronics in pumps

1. All functions in system should be controlled by a Programmable Logic Controller Operated 2. Variable Frequency Or Speed Drives (VFD or VSD):
3. Variable Speed Drives to ensure constant pressure and lower power consumption costs 4. Should provide a constant suction rate in both the flow and the pressure.
5.Vacuum gauge : Should have kPa bourdon tube vacuum gauge as per ASTM/ HTM standards

(5) DEPARTMENT OF RADIOTHERAPY

TECHNICAL SPECIFICATIONS FOR ANAESTHESIA AND ICU EQUIPMENT

Item No. 01. Specifications for Anaesthesia Workstation system

Gas Flow System

Machine shall provide accurate flow of Oxygen, Nitrous oxide and Air through single or dual flowmeters for accurate mixing and be suitable for low and minimal flow anaesthesia.

At least one source of High pressure Oxygen and Nitrous oxide with Gas regulators should be present

Master On/Off Switch or ventilator On/Off switch should not cut off anaesthetic gases flow so as to allow manual ventilation in the event of Power Failure/ Electrical faults

Should provide two or three Drawers below the working table.

Hypoxic Guard should be provided with Minimum Concentration of Oxygen / N2O mixture should be set between 19% and 30%

Should have open to closed system switch

All components should be from the same manufacturer and be compliant to ASTM 5358 standards

Vaporizers

Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.

Vaporizer shall require no tools to mount.

Vaporizer shall mount to a Selectatec type manifold which allows easy exchange between agents.

Vaporizers must be from the same manufacturer for Desflurane, Enflurane, Sevoflurane, Halothane and Isoflurane.

Should not require service/ preventive maintenance before 5 years from the date of installation

Replacement warranty will have to be given to replace the vapourisers become defective within this period except for mechanical damage

Breathing system

Breathing system shall be fully autoclavable to134° C and natural latex free. It should be compact. No tool should require for removing.

Total circuit volume shall not exceed 3 L, including Absorber volume.

Breathing system shall have integrated.

Volume sensing shall be of a type that does not require daily maintenance.

Ventilator bellows shall be integrally mounted to the breathing system.

Adjustable pressure limiting valve shall be flow and pressure compensated.

Machine shall provide circle mode breathing circuits.

Components coming in contact with patient gas shall be disposable or autoclavable.

FIO2 monitoring should be available as standard.

Common Gas outlet should be standard supply for connecting open circuit.

CO2 bypass facility should be available.

It should have passive scavenging port as standard.

Ventilator System

Integrated ascending bellows in box or Piston Driven ventilator compatible with low flow anaesthesia techniques suitable for adult and pediatric patients without change of bellows should have following specifications:

The ventilator display should be integrated in the anaesthesia machine

Ventilator shall have a calibrated Volume Control operating mode which allows pre-setting of desired tidal volume, rate, I:E ratio, safety pressure limit and electronic PEEP before connection to the patient.

Ventilator shall have a calibrated Pressure Control mode which allows pre-setting of desired inspired pressure, rate, I:E ratio, safety pressure limit and electronic PEEP before connection to the patient.

Ventilator shall have a tidal volume compensation. Operates on a breath-by-breath basis and does not require special calibration.

Ventilator display shall have a variable pressure waveform scale,

Ventilator shall have a variable pressure waveform length in seconds, which varies with the rate setting.

Ventilator shall be capable of 75- 120 L/min peak flow .

The ventilator shall not over deliver volume to the patient in the event of a bellows installation error, leak or rupture.

Ventilator shall have a “bag mode” to allow manual ventilation totally separate from the electronic component of the system.Ventilator display should be minimum 7” colored or above and display the waveform & digital parameters.

Battery backup: Shall have minimum 30 min for Anesthesia

Machine, vaporizer and ventilator should be of same manufacturer.

Manufacturers should have supplied and maintained the Anesthesia equipments in Indian market minimum last 5 years

Machine should have Approvals: European CE/FDA

Original Catalogues from the manufacturer should be enclosed in the technical bid. Claims of the bidders so as to the compliance of specifications will not be entertained and the bids will be rejected in the absence of original literature and catalogues.

Item No. 2. Noiseless Suction Unit

High quality durable vacuum suction machine for use in Operation Theatres and intensive care units should be quoted with following specifications

- It should have maintenance free piston/cylinder technology which should be heat resistant with high-tech material for long lasting dependable operations.
- It should have 2 autoclavable PSU (Polysulfone) jars of 3 l with change over switch from one jar to another jar.
- It should be noiseless and vibration free.
- It should have high flow rate of at least 30 l / min. with (-600 or better lower mmHg).

- It should have a large vacuum gauge in kPa and mmHg with easy to turn membrane vacuum regulator to set precise vacuum levels.
- It should also have foot on/off switch for hand free operation.
- It should have sleek design and sleek trolley with antistatic castors with brakes.
- It should be made with high quality housing material.
- It should be well reputed international company only.
- It should be European CE or USFDA approved.

Item No. 3. Multifunction Patient Monitoring System without CMS

Advanced high end modular patient monitor having integrated non-invasive, invasive measurement & features suitable for neonate, pediatrics & adult patients.

Monitor must have bright, highly visible minimum **19"** color TFT display with full touch screen facility.

Monitor must have the facility to display min 12 waveform or more, along with related numerical parameters on single screen.

Monitors must be able to monitor ECG, SpO2, NIBP, Respiration, dual temp, dual IBP, modular ETCO2 and minimally invasive Continuous Cardiac Output simultaneously. Out of these mentioned parameters ECG, Respiration, NIBP, SpO2, Invasive pressure and Temperature should be monitored through one server/ module, which should have display of these parameters with waveforms on server/ module itself. It should have its own battery backup of 2-3 hours

Monitor must be ready to connect for CO (Thermo dilution), BIS, NMT Module, ICP monitoring, three IBP, Spirometry, EEG module and it should be capable to monitor all these parameters simultaneously along with parameters mentioned under point no.4

Monitor must have advanced arrhythmia detection and ST Analysis as standard feature.

System must have minimum 24 hours review data including graphical and tabular trends, arrhythmia event recalls.

Monitor must have the time linked review function. Monitor must show the waveforms for the time when the arrhythmia occurred in case of arrhythmia recall.

Monitor must have facility to display 12 lead ECG through 5/6 lead ECG cable

Monitor should be capable of Sepsis screening with Sepsis protocol watch tool.

Monitor should have ST segment calculations

Must have facility to hook up with network printer, at any point of time and able to take print any review data (Trends, Graphs, waveform full disclosure, arrhythmia recall etc.)

Monitor must be able to connect to central monitoring station and should use single network for all kind of networking with the central station or other hospital information system (HIS)

Monitor must be U.S. FDA or European CE approved.

Each monitor to be supplied with following:

a. 5 Lead ECG electrode cable 2 No. each

b. Adult, Pediatirc and neonate SpO2 probe – 2 No. each (Ear lobe probes for neonates)

c. NIBP cuffs for Adult, Pediatrics and neonates – 2 no each (of different sizes)

d. Temp Probe – 2 Nos. (skin & esophageal one each)
e. IBP connection cable – 03 Nos.
f. IBP Disposable Pressure Transducers – 10 Nos
g. ETCO2 sample line: 10 nos (if applicable)
Modules of minimally invasive CO monitoring, NMT, EEG and spirometry, BIS/Entropy to be quoted separately
To provide suitable facility for sending and receiving DICOM compatible radiological images like Ultrasound, X-ray etc to and from monitoring network to and from HIS, RIS etc for integration of various information on the same patient monitor screen. **(Optional-Price to be quoted separately)**
Demonstration of equipment is essential.

Item No. 4. Technical Specifications for Portable Defibrillator

For the department of Anaesthesia & Intensive care
The defibrillator should display ECG from Paddles and ECG Cable
The Defibrillator must be based on Bi-Phasic Technology with facility.
The System should have energy selection 01 to 200 joules.
The system should have low energy selection with increment of 10J or less.
Defibrillator charging time should be less than 7 seconds on a fully charged battery.
The unit should have ability for synchronized cardio version.
Preferably should have facility for self checking and estimation of chest wall impedence
Should work on AC Mains and with rechargeable battery backup both.
Defibrillator must be able to deliver more than 30 shocks of 200 joules after fully charged on battery only.
Unit should work on power 200 – 240 V/50Hz.
The unit should be portable with a weight less than 7.5 kgs.
Audio-visual alarms and notifications
Should give feedback about the adequacy of paddle contact
The monitor should have at least 5" (inch) or more high resolution screen with two or more channel displays.
The unit should be supplied with paediatric and slip off adult chest paddles for defibrillation.
2 sets of External Paddles and ECG Cables should be supplied with each unit
Accompanying warranty for 3 years and CMC for 5 years. Warranty and
CMC will include replacement of each and every malfunctioned/ defective spare parts. **The quoted rates for consumables mentioned separately and price frozen for 07 years including warranty and CMC period.**

Item No. 5. Specification of Syringe Infusion Pump

1. Programmable flow rate from 0.1ml/ hr to 400 ml/hr.
2. Should be light weight not more than 2kg.

3. Facility for bolus drug administration.
4. Facility for 'Keep Vein Open' by slow administration of fluid.
5. Selectable occlusion pressure levels.
6. Standard alarms, e.g. mains failure, occlusion, syringe empty, syringe not in proper position, pause Overtime, low-battery, motor failure, incorrect specification, electrical circuit jam etc.
7. Backlit clear display of information.
8. Should run on 220-240V AC mains without any external adapter/transformer etc.
9. Internal battery backup for at least 4 hours
10. Should be compatible with a variety of syringes available in the Indian market, in10,20,30 and 50/60 ml sizes.
11. Automatic detection of syringe size.
12. Clearly structured keypad for fast and intuitive operation.
13. Should be mountable on standard iv stands.
14. The unit must have CE/FDA approved
15. Warranty: 36 months from the date of installation.
16. CMC for 5 years after the period of warranty.
17. The unit should comply with all regulator agencies such as CE, etc.
18. The firm will have to demonstrate the equipment at the institution before opening the price bid, at their own cost.

Item No. 6 Technical Specifications for Multiparameter monitor: (Mid Range for Recovery Rooms, Step Down ICUs and HDUs)

Should have a minimum 12" or more color CRT/TFT display

Should be suitable for the monitoring of wide variety of patients in Recovery Rooms, HDUs and step down ICUs etc

Monitor should have port for connectivity to central nursing station & hospital local networking system interfacing facility

Should have a neonatal to adult usage.

Should be able to display 6 or more waveforms along with related numerical parameters on a single screen.

The monitor should give choice of selection of the parameters to be displayed as waveforms

Should have single and multiple parameter modular system. Should have space saving design with minimum cable clutter

Should display following parameters

• ECG/Respiration

1. Should have heart rate range from 20-250 or more beats/mt
2. Should have Auto, ECG or Plethysmograph as source for heart rate.
3. Should have adjustable heart rate tone.

4. Should have 12 lead selections.
5. Should have sweep speed of 12.5/25/50mm/sec
6. Should have auto as well as manual gain selection
7. Should have protection against electrosurgical interference and defibrillation
8. Should have ST segment analysis
9. Should have software standards for lethal arrhythmias, Vfib, Vtach, Asystole, advanced arrhythmia and alarms
10. Should display audio, visual alarms.
11. Should have impedance as a method to know respiration
12. Should display a range of 0-99 breath pm for respiration

• NIBP

Should be based upon Oscillometric method
Should have manual/auto/stat modes
Should display systolic, diastolic and mean arterial pressures
Should have a scale in mmhg
Should have a range of 1- 120mts for repeat cycle
Should have a cuff pressure range of 0-300 mmHg for adults and 0-150 mmHg for neonates
Should have a range of systolic BP from 40-250; diastolic BP from 20-200 and
MAP from 25-220 mmHg

• Pulse Oximetry

Should have saturation range of 0-100% for adult, child and neonate
Should have a accuracy of +- 2% at 70-100% range and +- 3% at 50-69% range
Should have a HR range of 30-250bpm
Plethysmographic waveform display
Dual wavelength LED pulse oximetry
Should be capable of measuring oxygen saturation even in case of motion artifact
(patient motion or movement), low perfusion & intensive ambient light

• Temperature

Should have 2 channels
Should display T1, T2 and change in T
Should have a range of 0-50 degree C
Should have a resolution of 0.1 degree C
Should have a accuracy of +- 0.1 degree C
Should provide skin and oesophageal/ rectal probe

IBPs:

Should have 2 IBPs and upgradable to 3 IBPs
All accessories including reusable pressure transducers, disposable domes etc should be quoted and their prices should be quoted separately with validity of at least 5 years

$ETCO_2$:

Side stream $ETCO_2$ preferably microstream should be present and the monitor should display its wave form in addition to digital values

• Trends

Should have atleast 48 hrs trend storage of all parameters in graphic and chart form

Should provide user configurable graphical and numerical trend pages for providing complete historical view to patient status

Should have trend cursor in both graphical and numeric trends

Should have waveform snapshot to store and recall waveform samples for historical review.

Should have a facility to printout trend data on a printer

• Alarms

Should have alarms display and adjustment facility. There should be facility for

Setting and suspending alarms

Should have adjustable alarm limits (high and low)

Should have both audio and visual alarms

• Power supply/ Battery

Should be able to operate according to the Indian standards of electricity supply as well as on battery

Should provide lithium ion/ nimh or equivalent technology battery with minimum battery backup of 3hrs after fully charging

Should display battery status indicator

Should have a battery charge time between 3-5 hrs.

Should be able to upgrade in future for sidestream CO2 monitoring, gas monitoring, invasive Blood pressure monitoring, BIS monitoring.

Should have interfaced record keeper for documentation of drug entries, events and

ACCESSORIES

Should provide following accessories with each monitor

ECG cables 5 lead----------2 pieces each with at least 5 packet of electrodes

NIBP cuffs---------- 4 for adults, 3 for Paediatric and 2 for neonatal use

SpO2 probes 2 each for Adult and Neonatal complete with extension cable

1skin probes and 1 rectal/Esophageal probes

Rolling stand for mounting the monitor with attached baskets to keep its accessories should be quoted separately as optional

Operator & service manuals in English

WARRANTY AND CMC

Should provide a minimum warranty of 36 months after the date of installation

Should provide CMC of 5 yrs after the date of expiry of warranty.

Should provide User list & satisfactory certification of after sales service

Demonstration of quoted model to be provided during the technical evaluation at Hospital / Department.

The equipment should be US FDA or European CE certified

ITEM NO. 07. HYDROELECTRIC OT TABLE

Max. patient weight 300 kg or more without Acessories 400 Kgs or more with accessories
Height adjustment should be $\leq$600 - $\geq$110 mm from floor level
Longitudinal slide should be 300 mm or more
Trendelenburg/reverse Trendelenburg should be Approximately 30°
Tilt left/right should be Approximately15- 20°
Upward Flexion at back plate should be Up: 90°$\pm$ 7.5^{O}/Down 45°$\pm$ 7.5^{O}
Leg plate up/down Up 25-30°/ Down 90-110°
Split leg plates up/down +30°/90°
Head rest up/down should be +45°/75-90°
Kidney elevator (optional) with Lift to 75 mm
Down Flex position at back plate should be 210-225°
Table length should be 1950 mm or more
Tabletop width without side rails should be 500 mm -550mm
Table Top width with side rails should be 550-600 mm
Image width should be 450 mm or more
Upper body image section 900 mm or more
Lower body image section 800 mm or more
Integrated Manual backup system must be present
Should have integrated Collision protection with all powered tabletop functions
Should have continuous X-ray cassette channel
Battery capacity should last 5-7 working days
Segments of OR tabletop may be 6to 8
Tabletop material should have Antimicrobial design, Washable non water absorbing, longlife material Carbon fibre/ phenol and should not interfere with quality of x-ray
Base material Should be washable, rust proof, resistant to usual antiseptic solutions
Reinforced fibre plastics/ABS polymers etc may be used
Mattress should be seamless, washable, Non water absorbing, Velcro free antimicrobial design
F ive years CMC warranty in addition to usual warranty should be quoted
Two arm rests along with cushions/ mattresses along with clamps and two Lithotomy Poles alongwith clampsand leg rests from the original manufacturer should be quoted as standard equipment
X-ray cassettes should be quoted as standard equipment
Prices for all the original accessories including neurosurgical,hand surgery table and orthopedic accessories should be quoted separately
Any other accessories/ equipment/ material required for proper use of the OT Table should also be quoted
The OT Table should meet electricity safety standards like 60601 or equivalent